CRO You've got a good load

S/C Okay

CRO Okay, the first command should execute over the States about 7 minutes after you get acquisition.at Texas.

S/C Okay, now you don't want to turn the Agena back on or anything. Is that correct?

CRO Standby, I want to send SPC enable. Okay you can turn the encoder back on.

S/C Okay, the encoder is back on. Do you want us to leave the Agena on till it passes by the States. Is that correct?

CRO (garbled)

HOU Yes, you can just leave the ACS on. You can mount it to the single, Bill.

CRO Roger.

HOU Carnarvon from flight

CRO Go ahead

HOU In the flight plan, he wants to turn the ACS on in 19 hours. He can go ahead and use this any way he wants to, and we should be able to get his commands over Texas and see how they work.

CRO Okay.

CRO Hello, Carnarvon

S/C Go ahead.

CRO This command we sent you, Pete, doesn't have any effect at all on the flight plan. I think you're suppose to see ACS on about 19 hours, isnt it?

S/C Right. We'll just go ahead with the flight plan, then.

CRO Roger. Carnarvon has LOS both vehicles.

Gemini Control Houston here again. The sub-tank photos that Conrad has referred to several times now, have occupied the crew for the past 35 to 40 minutes. They have an additional 25 to 30 minutes of work due. You heard Pete Conrad say that they would probably complete the photography of some tanks containing liquid, meaning liquid fuel, in the adapter section by the time they reach the States. The cameras recording this action as the spacecraft is yawing in various positions pitched, rolled, recording the sloshing effect or precisely whatever effect is going on in the tanks. It came from the Mercury 8 spacecraft and the Mercury 9 spacecraft we're advised by. And the authority for this advice is Mr. Jack Kroehnke, the night news center manager of the Houston News Center. The plan is that Gordon will recover these cameras during his EVA this morning, and return them to Conrad in the spacecraft. At 18 hours 44 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

Go T

Gemini Control Houston 18 hours 52 minutes into the flight. No additional contact since Carnarvon. Our status remains as it was during the last report.

END OF TAPE

This is Gemini control Houston 19 hours 7 minutes into the flight. And our flight continues with nary a hitch. No new status reports since our last contact via Carnarvon. This is Gemini Control Houston..

END OF TAPE

This is Gemini Control Houston 19 hours 22 minutes into the flight. And we have just heard from the crew that the first malfunction of a piece of spacecraft equipment has cropped up."Pete" Conrad reports that the number 8 thruster seems to be, well, as he put it, "pooped out". He says he is getting virtually no thrust out of it. He suspected for sometime that something was a little wrong in it. He elaborates on it considerably in a conversation which is still going on as the spacecraft proceeds across the states. The crew is there is some question too, on whether the cameras, the movie cameras, set up to record the tank sloshing action in the Apollo sub-tank test which has been going on for much of the past hour and a half. Just how effective that might be one of the stations noted no current flowing on that particular circuit. They were looking at TM. But apparently the test was rather cyclical in nature and the crew was flipping the on and off button. So, it is just possible they did get the desired effect. This too is elaborated on in this conversation. Let's listen now.

HOU Gemini 11 Houston

S/C Go ahead Houston

HOU Roger, Could you please varify for us that your camera circuit breaker is on?

S/C Which? The Apollo sub-tank camera circuit breaker?

HOU That's affirmative.

S/C Yeah, it's on.

HOU Roger, On your pass over Carnarvon we did not

copy any current on that particular circuit.

S/C Uh Oh! Well we were (clicked)ing cameras and we did the whole experiment.

HOU Roger.

S/C Circuit breakers been on all that time. We've got a little anomaly for you.

HOU Go ahead.

S/C Okay, we've got a number 8 thruster that's not up to snuff. I haven't bothered to find out whether it's completely out or not. I suspect that it is not hardly putting out anything.

HOU Roger. 11 Houston. In regard to this camera power, were you cycling your sub-camera on and off over the Carnarvon pass. Over.

S/C Were we cycling on and off?

HOU Affirmative.

S/C It might only come on once or twice while we were actually over Carnarvon.

HOU Roger, that's probably the problem right there.

S/C We did a great deal of camera cycling prior to Carnarvon and then we were in sort of the wait period there. I'm sure we turned it on once or twice over Carnarvon though.

HOU Roger, they didn't monitor you continously. But the majority of the time they were looking they

did not see any current flow in that circuit.

S/C Okay. We did check the circuit breaker several times during that experiment. It never came off or anything .

HOU Roger, we've got some information if you are ready to copy, concerning the window wipe, over.

S/C Go ahead.

HOU Roger. If your time line permits during the umbilical EVA we recommend that you use a dry rag and wipe half of the command pilots' window, while you're changing the 16 mm film pack. Or as time permits somewhere in that sequence. Later evaluate the results to determine if you want to wipe the remainder of the window later in the EVA. And if you do, do so when you get the opportunity. We'd like you to retrieve the rag for evaluation but suggest you attempt to stow it to decrease any possible out-gassing into the cabin. One possibility here is the waste container bags that you have in your pedestal Volkswagon pouches. Over.

S/C Roger. We're going to do that. I estimate that 50% of my window dirt is on the inside of the outer pane. However, the outer pane is, outside of the outer pane is covered pretty badly. My window is almost useless for photography.

HOU Roger, how about the pilot side?

S/C It's pretty dirty too. But it is not quite a s bad as mine.

HOU Roger.

S/C What we are trying to do now Al, is catch a little nap prior to EVA prep.

HOU Sounds good, we'll hold up on the conversation then.

S/C Okay.

HOU 11 Houston

S/C Go ahead.

HOU One last comment here, Can we get you to turn on the sub-camera and also the camera circuit breaker. Just for about 10 seconds and we'll monitor it here on the ground and see if you have a problem or not.

S/C Okay, stand by. The camera is on at this time.

HOU Looks okay 11. Apparently the problem was in the monitoring at Carnarvon. They probably weren't looking when you were operating the camera. Looks good here.

S/C Okay.

LOS Antiqua

S/C Yeah, we intend to power down here for the next 40 minutes and start the EVA prep on time.

HOU Roger and could you give us any information as far as what you did do as far as trouble shooting the number 8 thruster.

S/C During the Apollo sub-tank flying it direct I noticed that when I got..wait a minute I've got it written down here..yaw left I got yaw right. I think that's number 8 isn't it?

HOU That's affirmative.

S/C Okay, I was getting a good healthy roll out of it so I suspected it was just about out of snuff. Problems I just thought I'd mention to you.

HOU Roger, 11.

S/C The other thing we did determine that our voice tape is running we just don't have any light.

HOU Roger, understand it's running but your light is not operational.

S/C That's good.

HOU 11 Houston, would you also check your O_2 pressure. Over.

S/C Okay.Yeah, it's about 670. We're going to just leave it the way it is. We're going to sleep here and we'll pump it up when we start EVA prep.

HOU Roger.

END OF TAPE

This is Gemini Control, Houston, 19 hours 37 minutes into the flight. We have had no additional conversation with the crew. You recall as they left the States last time, their was an agreement that there would be about a 40 minute period where they would just relax and take a little nap before they began the rather intense work leading up to the EVA. On the No. 8 thruster problem, that will be worked a little later in the flight. The plan is to exercise it over Carnarvon to see how much thrust if any it is putting out. In past flights, we have, in Conrad and Cooper's flight, August a year ago - they lost at least two thrusters. I believe they only had partial use on a third in the course of their eight day mission. The No. 8 thruster figured very prominently in the difficulties that Neil Armstrong and Dave Scott had in the flight of Gemini 8. It was the same thruster that stuck in an open position, and eventually it was discovered that it was that thruster which put them into a high spin rate. The problem here is of course, is rather different. There are several approaches - several different tests that can be made to see if the problem is in the electrical circuitry controlling the No. 8 thruster or if it is a mechanical valve closing proposition. These possibilities will be explored over Carnarvon during this pass. At 19 hours 39 hours into the flight, this is Gemini Control, Houston.

END OF TAPE

This is Gemini Control, Houston, 20 hours and 1 minute into the flight of Gemini 11. The crew now is in a rest period for nearly 30 minutes. It is expected to go on for another 10. It was Pete Conrad's estimate when he left the Canaries which is the last time we heard from them. The first piece of activity they will do in the start of EVA preparation period which will begin 15 to 20 minutes from now will be a purge of the fuel cells. They will also start cycle their primary B and secondary A coolant pumps ON and OFF. They will go through a platform alignment at Carnarvon they will get a GO for 30-1 flight. And they will be given planned landing area update information also at Carnarvon. They will get a sunrise update for their extra-vehicular activity coming later in the morning. During the Apollo sump tank test earlier this morning, the Gemini 11 crew used about 40 pounds to carry off the maneuvers required getting the tanks in the proper position for photography. At present - have onboard about 440 pounds of fuel remaining, 440 pounds. The No. 8 thruster which will come in for additional conversation when we reach Carnarvon in about 5 to 6 minutes is located at the 8 o'clock position on the spacecraft. It would be down behind Pete Conrad and to his left. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control, Houston, 20 hours 7 minutes into the flight. Within the next minute, the Carnarvon station is to acquire Gemini. It should be an interesting pass. It will also be a reasonable pass. It is slated for something over 9 minutes. We are going to attempt to follow this pass live, we think it will be a rather full pass. Full in the since of discussion. Carnarvon does have acq aid now but there is no conversation. It should be momentarily, lets cut out there. No conversation yet. We do have a solid TM lockup via Canary.

HOU Does your surgeon think their awake?

CRO That's affirm, flight.

HOU Okay.

CRO Gemini 11, Carnarvon.

S/C Go ahead, Carnarvon.

CRO Roger, wanted to bring you up-to-date on this experiment we ran on the Agena. The ground indications are that the clock in the Agena did in fact skip four hours plus. So we are going to bias ... on that time. And we would like to flush out the memory now, so if you want to turn off the encoder, we will send you a load with all max time labels.

S/C Okay, encoder is off.

HOU Roger.

CRO Flight, Carnarvon.

HOU Go.

CRO Go for 3-1 as far as we are concerned.

HOU Okay. Standby.

Okay, Carnarvon, we are GO here.

CRO Hello, Carnarvon.

S/C Go.

CRO Okay, you have got a good load and we have transmitted SPC. You can turn the encoder back on.

S/C Roger, encoder back on.

CRO And we are giving you a GO for 30-1.

S/C Roger, we are GO here. Be advised that we start our EVA PREP.

CRO Roger. I've got a small PLA update for you when you are ready to copy.

S/C Okay, wait one.

Okay, ready to copy.

CRO Okay, the weather in all three areas is good. SEP maneuver is required. The bank angles are roll left 85 and roll right 95 for all three areas. First area is 16-1, 23:43:48, 21 + 12, 27 + 17. Area 17-4, 26:34:12, 20 + 36, 26 + 43, Area 18-4, 28:09:34, 20 +50, and 26 + 48.

S/C Roger, copied.

CRO Okay, on your EVA, your time is 24:02:09. That's sunrise plus 10 minutes.

S/C Say it again, Bill.

CRO That's 24:02:09.

S/C Roger, 24:02:09.

CRO Roger.

HOU Flight, Carnarvon.

CRO Go.

HOU Do you want to go ahead with this OAMS thruster check here?

CRO No, just tell them that's a recommendation to be done when ever he can.

HOU Okay.

CRO 11, Carnarvon.

S/C Go ahead.

CRO On this No. 8 thruster when you get a chance you might try turning circuit breaker off and yaw left and see what happens. And also you might try your secondary drivers if you haven't already.

S/C Okay, we will - we weren't too concerned until we were going (garbled) off the Agena. We have been pretty busy.

CRO Rog. Flight, Carnarvon.

HOU Go.

CRO Okay, the memory readout confirms that (voice fades) and it was all good.

HOU Okay, very good, Bill. I think you got it all done.

CRO Flight, Carnarvon.

HOU Go.

CRO I assume they purged the fuel cells. Do you want us to get a Cryo quantity?

HOU Yes, confirm that they did purge them and get a Cryo quantity.

CRO Roger.

11, Carnarvon.

S/C Go ahead.

CRO Did you go ahead and complete your fuel cell purge?

S/C No, we haven't done it yet.

CRO Okay.

One minute to LOS.

S/C Roger.

HOU Carnarvon from Flight.

CRO Go ahead.

HOU LOS Main, please.

CRO Roger.

Carnarvon has LOS.

HOU Roger.

This is Gemini Control, Houston, 20 hours 17 minutes into the flight. During that Carnarvon pass, we were watching the electrical summary table with telemetry coming in on it. And it shows the Main Bus Voltage reading 25.3. The amp level totals 37.2 from all stacks. The Cryo-oxygen pressure - I'm sorry the Cryo oxygen tank pressure - I'm sorry the Cryo oxygen tank temperature minus 224 degrees F, and the Cryo hydrogen tank temperature is minus 399 degrees F. The Cryo hydrogen quantity is 87.1 percent. We did not get valid data on the Cryo oxygen quantity. The crew is well into their EVA preparation now, which will occupy them for the next several hours. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston, 20 hours 37 minutes into the flight. We have passed over and northeast of the Canton Island station. We were set up for remoting but no conversation ensued so we have no new development since our last conversation via Carnarvon. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston 20 hours 52 minutes into the flight of 11. Guaymas acquired several minutes ago and here is how the conversation is going.

HOU Guaymas go remote

GYM Guaymas remote.

HOU Gemini 11, this is Houston standing by at Guaymas.

S/C Roger, Houston we're progressing right along here.

HOU Roger, have you completed your fuel cell purge over.

S/C No, we haven't done that yet. What we'd like to do is wait till about an hour before the EVA and we'll get it in then. Okay? Would you prefer we get it in right now?

HOU This is Houston, wait one.

HOU Gemini 11, Houston that sounds like a good idea to wait just before EVA, over.

S/C Okay. We're on page 4 of our check list, about half way down if you're interested in where we are. We're just getting ready to unstow the ELSS.

HOU Roger, watch that light.

S/C Again?

HOU Nothing.

Texas go remote, Guaymas go local.

HOU Texas is remote

GYM Guaymas is local

Antigua is LOS

LOS Antigua

This is Gemini Control Houston. A relatively quiet pass as you have observed. We are standing by but we don't really expect very much conversation during this pass, as the crew moves through their very detailed check list. The total time allotted for EVA preparation is 4 hours. We're about three hours into that period. I'm sorry, we're not that long, we're exactly one hour into the four hour EVA preparation at this time. Let's monitor as the spacecraft/is now approaching Bermuda we've still got 2 to 3 minutes more of the possibility of conversation.

(Dead Air)

Bermuda go remote.

Bermuda remote.

Houston 11.

Houston go ahead.

S/C I understand our EVA time is 24 0209 is that correct?

HOU Roger. Sunrise plus 10 240209.

S/C Okay, we're way ahead of schedule here so we're going to power down and get a little rest.

HOU Roger.

S/C Have you got anything while / we've got some time off right now.

HOU Gemini 11 Houston. 30 seconds till LOS at Bermuda.

S/C Roger.

HOU Canary from flight

Canary, do you read?

This is Gemini Control Houston, 21 hours 22 minutes into the flight of Gemini 11. We've had no discussion with the crew since the start of the Canary pass. We're now down in the lower southeastern edge of the Kano acquisition area and we don't expect any discussion in this pass across Kano. The crew is still taking a little breather and we're still running probably 30 minutes ahead of their 9-page detailed check list, in the process leading up to extravehicular activity. Questions were raised yesterday about how many dockings the crew went through. The number is four. The initial docking which Pete performed, then there were two dockings associated with the S-26 Ion Wake experiment. We understand that each pilot performed one of those. Then a fourth docking by Dick Gordon and they remained in the docked configuration overnight. It's been commented too, about this being an all-navy flight; the first time that we've had two pilots from the same branch of service, and it goes much further than that - the capsule communicating chore seems to be divided between two navy people. Lieutenant Commander, Alan Bean worked the night side and Commander John Young is working the day side. In addition, the crew leader for this particular flight is navy Captain Alan Shepard. So, it certainly is a navy flight from start to finish, as pertaining to the pilot role. Even the backups Neil Armstrong and Bill Anders - Neil was a navy pilot while in service during the Korean War and Bill Anders, while an airforce officer, is a graduate of the naval academy, I believe. At 21 hours, 25 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston, 21 hours 37 minutes into the flight. We have just moved through the Tananarive zone of acquisition. Again, without any discussion. The crew earlier got some suggestions on how to give all of us a better understanding of the acknowledged problem with the No. 8 thruster. The problem seems to be that the thruster, as Pete Conrad put it, just wasn't putting out any thrust, certainly not the full 25 pound capability. The crew - it was suggested that the crew isolate the thruster, that is, turn off the other thrusters and fire just No. 8 in order to calibrate whether it was producing any thrust or just how much. Pete noted at one point when he had called for the No. 8 thruster authority that he got some roll in the spacecraft. It apparently was very slight order of roll. And of course, he can maneuver the spacecraft so that he can use other combinations of thrusters in order to get any kind of yaw authority he needs. At this time we do not know if the crew has carried out the test to see what the - if they can shed any more light on the No. 8 thruster. But at the same time, it is not a problem of sufficient order to pose any threat to the scheduled activity coming up in about 2½ hours - the EVA. At 21 hours 39 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston, 21 hours 52 minutes into the flight. The spacecraft has been over Carnarvon the last 6 to 7 minutes but no conversation has ensued just as has been the case the last 4 stations we have crossed. The crew is still very busy with their Flight Plan or check list. We are noting over Carnarvon that there is no heartbeat or respiration trace coming through. The Flight Surgeon reported this. And at closer examination of the check list shows that there is a point in the check list where they actually take off or electrically remove those circuits from the TM Bus, so this would account for this loss of heartbeat and respiration information. The outages expected to run something like 5 minutes while certain pieces of equipment are hooked up and tested in the EVA preparation buildup. Carnarvon, on the ground, the station is reading out all the systems and giving both vehicles a very resounding GO. At 21 hours, 53 minutes into the flight, this is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston, 22 hours 7 minutes into the flight. The Gemini 11 crew is still maintaining pretty rigid communication silence. They're in the Canton area and still no discussion from them. This is about the fifth station where we had no voice contact. We don't plan any additional discussion until they're over the states. That will be some 20 minutes from now. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, 22 hours 22 minutes into the flight. Gemini 11 is on its 14 revolution just come into range of the California tracking station. We are still not attempting to contact the crew as the spacecraft passes over the tracking station. They are busy with the EVA preparation, and we are not attempting voice communication with them. Telemetry shows all systems GO on the spacecraft. This is Gemini Control.

END OF TAPE

This is Gemini Control, 22 hours 37 minutes into the flight. Gemini 11 has just started its 15th revolution. It is within range of Bermuda. The Flight Surgeon reported he has started picking up good solid data again, biomedical data. It shows that both pilots are active, heart rates in the 80's. There was a brief conversation between Pete Conrad and the Cap Com, John Young during the pass over the states. We will play that tape for you now.

CAL California is remote.
Guaymas go remote, California go local.

GYM Guaymas remote

CAL California local.

HOU Gemini 11, Houston in Texas standing by.

S/C Okay Houston this is 11. We are going to purge the fuel cells at this time. We got so far ahead of the game here that we were dumping oxygen overboard while Dick was on the ELSS. We've put him back on the ships system again and we've stopped at page 7. We are going to hold up until we get to the next darkness pass before we go any further. We are just a couple of steps of being ready to go.

HOU Roger.

S/C We're letting the manual heater cool off a little bit. We're running on all down, we're only

indicating about 480 down but we'll run it on up ahead a little bit. Commence hydrogen purge, cell number 2.

HOU Roger.

Texas go remote.

Guaymas local.

TEX Texas remote.

GYM Guaymas local.

S/C Oxygen in number one, the oxygen in number 2.

HOU Roger.

S/C Oxygen going to number one.

HOU Roger

S/C Okay, fuel cell purge is complete, cross over is off, manual heater going back on.

HOU Roger.

Gemini 11, Houston. We want a cryo H_2 readout for about 30 seconds.

S/C Roger, H_2.

ANT AOS Antigua

HOU Gemini 11, Houston, over.

S/C Go ahead

HOU Roger. You are now on the ships system you are no longer on umbilical right now, is that correct?

S/C That is right. We put Dick back on the ships system. We were just losing oxygen then but we could afford it. Houston, 11.

HOU Go ahead.

S/C Roger. When we were doing the Apollo sump tank camera business, we were suppose to hit at 10 feet per second out-of-plane to the south and it would take us back out again 15 feet but in doing the experiment we wandered off, so I was curious as to - we actually put a little retrograde maneuver and a little down and I was wondering what our orbit is now.

HOU This is Houston. We'll get it immediately.

S/C Again John.

HOU Your in a 166.4 by 154.6 Pete.

S/C You cut out say it again.

HOU You are in a 166.4 by 154.6, over.

S/C Okay.

GT LOS at Grand Turk.

HOU Gemini 11, Houston. Thirty seconds until LOS at Antigua.

S/C Roger, Houston. We are going gyro around 90 degrees here after a bit and get ready for the next rev.

HOU This is Houston, roger.

END OF TAPE

This is Gemini Control, 22 hours 52 minutes into the flight. Gemini 11 now off the west coast of Africa, just passed through the Canary Island range. We have a very brief bit of tape from the Canary Island pass. We will play that for you now.

HOU Roger, Canary

CYI TM solid Gemini

HOU Roger

CYI C-band track

CYI Both vehicles are go

HOU Roger

CYI Gemini 11, Canary

S/C go, 11 here, go ahead

CYI Okay, we show you go on the ground, we have nothing special for you at this time.

S/C This will be our last chance with you for this period We'll see you in the morning, be good.

CYI Roger, thank you.

CYI Flight, Canary

HOU Go ahead

CYI Okay, Bravo Alpha 07 cyro, tank pressure is -came down to 883.

HOU 883

CYI Looks like it peters off now.

HOU Okay

CYI It looks like it is yawing around to a +90 at this time.

HOU Kano to remote

CYI AFD Canary

KNO Kano is remote.

CYI We have acquisition

HOU Say again Canary, this is AFD

CYI We have LOS

HOU Roger

HOU Gemini 11, this is Houston at Kano, stand by.

S/C Roger Houston, we just gyro compassed an EVA south and we're just standing by to pick up the EVA again.

HOU Roger

CYI Canary cap com, AFD

S/C Canary..

CYI Roger, you're messages are on the way

S/C Roger, For some reason we were taken out of conference during that pass.

CYI Okay, we'll run a check on it.

S/C Say again, this is 11

HOU This is Houston, we didn't call you, over.

S/C Somebody else came up on a gesture

HOU Roger.

This is Gemini control, 22 hours 56 minutes into the flight. Gemini 11 is still within acquisition at Kano, and will be for about another minute and a half. We'll continue to stand by through this Kano pass.

HOU Houston, Gemini 11, one minute .... Gemini 11 Houston, one minute until LOS.

S/C Thank you Houston Situation indicator should pick us up.

This is Gemini Control, 22 hours 58 minutes into the flight and Gemini 11 has had loss of signal at Kano.

END OF TAPE

This is Gemini Control, 23 hours 27 minutes into the flight. Gemini 11 is over Carnarvon where they have just been given a GO for depressurizing the spacecraft. We have the tape from the Tananarive pass plus the conversations at Carnarvon and we'll play those for you now.

HOU Tananarive, Houston,go remote.

TAN Tananarive remote.

HOU Gemini 11 this is Houston through Tananarive and standing by.

S/C Roger Houston.

HOU Good morning.

S/C Houston how do you read 11.

HOU Eleven this is Houston read you five by. How about us?

S/C Read you same. I have a question for you. We figure that at 23:36:09 we'll roll right 80 degrees and go inertial on the Agena and that should leave us at the proper angle at sunrise plus 4 minutes. Will you check that?

HOU Roger understand. Roll right 80 degrees at 3609 and we'll check that out for you.

S/C Thank you.

HOU Gemini 11, Houston, over.

S/C Go ahead Houston.

HOU Roger. I would like to put your roll jet switch to pitch. Over.

HOU So you have full roll authority.

S/C Okay.

HOU You should - we figure that you'd be roll 16 degrees right at sunrise and that ought to be okay.

S/C Yes but thats not the problem John. The problem is Dick will be in a hardsuit, suit one at that time and he can't control the Agena on and off.

HOU Roger understand.

S/C What we'd like to do is roll right 80 degrees at 23:36:09, that should be the same thing, shouldn't it?

HOU Roger that is affirmative.

S/C Okay that is what we are going to do.

HOU Gemini 11, we're one minute to LOS at Tananarive.

S/C Roger. Standing by.

S/C This is Gemini 11. How do you read us on VOX, over?

HOU Read you loud and clear Pete.

S/C Well sir, how me John?

HOU Loud and garbled Dick.

S/C How do you read me now?

HOU About the same. You - we can understand you.

S/C Okay.

TAN Tananarive has LOS.

CRO Agena is GO and Gemini is GO.

HOU Roger.

CRO C and S band track.

HOU Roger.

CRO He's got the cabin - the ECS O_2 tank pressure around 940.

HOU Roger.

CRO O_2 quantity is 81.7, right - left secondary bottles are good.

HOU Roger.

CRO Flight, Carnarvon

HOU Go ahead.

CRO He looks good for cabin depress.

HOU Okay.

CRO Gemini 11, Carnarvon.

S/C Go ahead Carnarvon, 11 here.

CRO Roger, we'd like you to send reset timer reset command 060 to the Agena.

S/C Roger. We're doing that at this time.

CRO Okay.

S/C Roger, it is sent. We got a map.

CRO We'd like to give you a GO for depressing the cabin.

S/C Okay. We're GO up here. We have about 5 steps to complete, which we will do after we go inertial.

CRO Roger.

CRO One minute to LOS.

S/C Roger.

CRO Carnarvon has LOS both vehicles.

HOU Roger.

END OF TAPE

This is Gemini Control, 23 hours 40 minutes into the flight. Gemini 11 has just come within range of Canton. Hawaii has overlapping acquisition here and we will standby through the Canton and Hawaii passes for any conversation.between the crew and the ground.

HOU Gemini 11, this is Houston at Canton.
Standing by.

S/C Roger, Houston.

VOX (Unreadable)

This is Gemini Control 23 hours 45 minutes into the flight. We are still standing by. We are about to loose acquisition at Canton.and acquire at Hawaii. There was a brief bit of VOX conversation in this Canton pass between the crewmen but the quality was very bad. We will continue to stand by through Hawaii.

HAW Flight, Hawaii.

HOU Go ahead.

HAW Roger, we have contact.

HOU Roger.

HAW All systems are go.

HOU Roger.

HAW We are showing indications that the pilot is hyper-ventilating at the present time. Respiration rate 36.
Gemini 11, Hawaii standing by.

S/C Roger, Hawaii

S/C We are all ready to go.

HAW Okay.

S/C We are going to have to run this ECS heater ON because this ELSS keeps venting. We have to run it all the time to keep the pressure up.

HAW Okay, we copy that.

HAW We show your pressure good here on the ground and the quantity about 80 percent.

S/C Roger.

HAW And your current looks good.

S/C Okay.

HAW Flight, Hawaii.

HOU Go ahead.

HAW Okay, his respiration reading is averaging about 26 right now.

HOU Okay.

END OF TAPE

H.W Looks like Dick is pretty careful in all his movements. He has'nt knocked off any switches yet, that we can determine from here.

HOU Roger

HAW We're showing intermittent jet activity on the Agena.

HOU Roger, how does the Agena look?

HAW Oh, it looks real good, it's just trying to hold a inertial attitude.

HOU Okay

HAW We've got a G.O.S off and horizon sensors off. Showing about 940 on cyro O_2 pressure

HOU Roger

HAW Okay, we're showing cabin depressed right now.

HOU Roger

HAW 11,Hawaii. One minute to LOS. All systems look good on the ground. You're go for you stateside EVA. Good luck.

END OF TAPE

This is Gemini Control, 23 hours 56 minutes and the California station is just acquiring Gemini 11. Cap Com John Young has put in a call and told him that we are standing by. Standby.

Pete Conrad reports the cabin is depressed at this time. There has been no further conversation yet, other then Pete Conrads report that he has depressurized the cabin. The Cap Com in Hawaii noted that cabin pressure was down to one half pound as they lost signal at Hawaii. It is now completely depressurized. We'll continue standing by.

This is Gemini Control, 23 hours 58 minutes into the flight. Gemini 11 has been acquired by the Guaymas station now. Still no conversation between the crew and the ground. We'll continue to standby.

Gemini Control at 24 hours into the flight and we're two minutes away from hatch opening time. Still no conversation with the crew yet. We are acquiring at Texas at this time. We will continue to standby.

Gemini Control, a report from Pete Conrad that they are standing by to open the hatch. They just ran a communications check. They were fairly good at that time. Pete Conrad reports just passing south of San Diego, California. Everything is ready to open the hatch at this time. They are opening the hatch right now. The hatch is locked open. Report from the crew of a beautiful day.

Communication is a little bit choppy right now. Dick Gordon is standing up at the present time. Dick Gordon reports the spacecraft looks clean toward the aft part of it. Pete Conrad apparently holding his feet to aid him and help him from floating out. Dick Gordon has the S-5, the nuclear motion experiment out now. S-9 experiment. We'll now go to the crew conversations and bring you that through the remainder of this pass.

CONRAD Okay, you got something to hold her up to you.

GORDON Yes.

CONRAD You hold on to it - you are on your own.

GORDON Okay.

Let me get some more tether.

CONRAD Sorry, seems like it takes a long time.

END OF TAPE

GORDON Okay, just a minute I will have her tethered here.

CONRAD The S line is tethered to me and the jump tether's from you. Here is your tether.

GORDON I am holding it.

CONRAD Throw it

GORDON Okay.

CONRAD Have you got a hold of that

GORDON No, wait a minute. Just a second.

HOU Texas local.

GORDON Get this line down between my legs and out of my way.

CONRAD ...here it is. Give me a hand.

GORDON All right now, ready to play this.

CONRAD I am going to hang on to you by your feet instead of the tether. I can't get that other thing.

GORDON Okay.

CONRAD All right. Now what are you doing?

GORDON I going to put the towel in.

CONRAD Okay, I got a hold of you.

GORDON Okay.

CONRAD You in?

GORDON Yes.

CONRAD Now the question is, what next?

GORDON Oh, ... the tether, I guess.

EVA camera coming off. Scratch 02.

CONRAD Let me hang onto you.

GORDON I have got to rest here a minute though.

CONRAD Okay.

GORDON I am pooped.

How much tether have you got left?

CONRAD Oh, I am hanging onto you right now. Do you want me to hang onto you?

GORDON How much tether do you have out?

CONRAD Tether do I have out?

GORDON Yes, that is what I mean.

CONRAD I am hanging onto you right now. Tight.

GORDON Well, let's go get that tether. Let me have some tether out.

CONRAD Oh, okay. I will tell you when I let you go.

GORDON Hold on about 3.7.

CONRAD Got about 6 feet of tether out.

GORDON That looks like it ought to be enough.

CONRAD Okay.

I have got your back foot here. I don't any more. You are on your own. Okay, your foot is on the window. Go ahead and turn the camera on.

CONRAD Did you get it?

GORDON No, I missed it. Pull me down Pete.

CONRAD Okay. ... right back.

GORDON Easy.

CONRAD I just gave you a little pull there.

GORDON Easy. I can't see where I am going.

CONRAD You are going in back of the adapter there.

GORDON Back a little more.

CONRAD How are you doing?

GORDON Pull me up.

CONRAD Okay.

GORDON ...again.

CONRAD Okay, let me know when you get a go.

GORDON Let me go some.

CONRAD You got it.

Are you hung on something out there?

GORDON Solid, good show.

CONRAD The cameras are running. How are you doing?

GORDON All right, I guess.

CONRAD Tired?

GORDON ...I guess.

CONRAD You sure are. Ride'm cowboy.

Why don't you sit down and take a rest?

GORDON What.

CONRAD How are you doing?

GORDON Tired, Pete.

CONRAD All right, just rest. You have got plenty of time. You have only been out 9 minutes.

GORDON I am going to turn off those cameras. Okay, the camera is off.

CONRAD Take it slow a little bit. Take your time.

GORDON Hey, you ought to see Houston. It is lightening like a stop light.

HOU Houston roger.

CONRAD The voice recorder is not on. ... right now. ..take a breather. How are you doing?

GORDON I am very tired.

CONRAD Well, just relax. Old boy working hard, huh?

GORDON Yes.

CONRAD You look awfully funny, setting out there in front of the spacecraft, I will tell you that.

GORDON Okay. See if you can adjust the hatch angle. The sun is shinning right on my head.

CONRAD Take it easy. How are you doing? You are breathing awfully hard...

HOU Gemini 11, Houston.

CONRAD ...take a rest.

GORDON Okay.

CONRAD You will get that all right. You are way ahead.

HOU Gemini 11, Houston.

CONRAD Go ahead, Houston.

HOU Roger. Can you go off VOX. Over. We can't get through to you.

CONRAD .. say again Houston.

HOU Roger. Would appreciate it if you stay off VOX so we can get through to you. Over.

CONRAD Okay. Dick is breathing hard. And he is resting up in front there.

HOU Roger, he keeps the VOX cut in all the time.

CONRAD He has got the tether...just sitting and resting...he is about to get all right...docking bar.

HOU Roger. Gemini 11, Houston. Gemini 11, Houston. You can turn on your manual heater. Over.

S/C Roger. Will do.

HOU Roger.

This is Gemini Control. Flight Surgeon Dr. Charles Berry reports both pilots in good shape despite some high breathing rates for a time on Dick Gordon. His respiration rates are coming down now. They reached a high of 40. Pete Conrad's respiration rate peaked at 22. Heart rates during this initial part of the EVA, Gordon 162, Conrad 120. Dick Gordon still considerably below heart rates that he had in the chamber during some of the simulations and heavy work there. We will stand by for further conversation between the crew and the ground.

END OF TAPE

Gemini Control at 24 hours, 16 minutes. We still have about two minutes of acquisition time left at Antigua.

HOU Gemini 11, Houston. One minute and 30 seconds to LOS at Antigua.

S/C Roger, Houston. I got him back in the cockpit. He's resting. We've got the tether hooked up.

HOU Gemini 11, Houston. Did you get the docking mirror up, over.

S/C No, we decided to skip that one.

HOU Oh, roger.

Gemini Control, 24 hours, 19 minutes. We've just had LOS at Antigua. We'll play now the tapes of the initial part of this EVA, up until you started hearing the conversation of the crew. We'll play those tapes now.

California go remote.

CAL California is remote.

HOU Gemini 11 this is Houston at California. Stand by. Gemini 11 this is Houston at California. Stand by. Over.

S/C Roger, Houston. We have the cabin depressed. We're just standing by to open the hatch.

HOU Roger. Guaymas remote. California local.

S/C We've thrown it over on VOX. How do you read us?

HOU Read you loud and clear.

S/C Roger. You the same. We're just standing by to open the hatch.

S/C We're just passing San Diego - just off of San Diego.

HOU That's right.

S/C VOX Shall we open the hatch?

The hatch cannot be opened till you push away.

Shall we try that one more time over there?

Yes.

HOU Texas remote. Guaymas local.

TEX Texas remote.

GYM Guaymas local.

S/C VOX It's unlocked.

There you go. Good show.

I'm opening the hatch.

Okay, the hatch is coming open.

Okay, hey, listen, that mirror is in the way.

Hold the hatch. Hold the hatch steady right there.

It's in the locked position.

HAW Make sure you don't overlap your recorder. Open it slowly.

S/C Hawaii?

HAW Right. Go ahead.

S/C (squawk)

HAW Okay. Is it open?

S/C VOX Oh, it's a beautiful day.

HAW Roger.

S/C VOX ....Put your hand in the cockpit.

Eeeasy.

S/C VOX You're not doing so bad. You guide me, Will you?

Okay.

Good deal.

Where is it?

Right up short of you.

Lot's of pressure out there and you're in pitch.

How are you doing? Can you stand? Okay.

Hey, hey, you're standing on the MDIU. That's a boy.

Keep your feet off it. Okay, now.

Now I'm also level with your side. I will make sure I'm hooked on to you.

Yep. I'm hooked on to you right now, Pete.

You are?

Yep.

Okay, I got you.

Stand by, I'm hooking up the fuel on to you.

This is Gemini Control, 24 hours, 22 minutes. We're just about to acquire at Ascension. We'll stand by and bring you the conversation from the Ascension track.

HOU Gemini 11, this is Houston at Ascension. Standing by.

S/C Houston, we're just resting.....

HOU Oh, roger.

Gemini Control at 24 hours, 25 minutes. Hatch opening time was 24 hours, two minutes, eight seconds. We'll continue to stand by at Ascension.

END OF TAPE

HOU Gemini 11, this is Houston. How is everything going?

S/C Well we are just resting. We're getting ready to do D-16 but I'll have to say goodby now and rest here. Can rest another 3 minutes.

HOU Roger that is good. I know how it is. Gemini 11 this is Houston. Could you check your O_2 pressure?

S/C It is 625, the ECS heater has been on ever since you said to put it on.

Gemini Control, 24 hours 28 minutes. We still have about 4-1/2 minutes of acquisition time at Ascension. We will continue to standby.

HOU Gemini 11 this is Houston. One minute until LOS at Ascension.

HOU Gemini 11 this is Houston. Want to turn the manual heater off, over.

HOU Gemini 11, Houston, over.

S/C Say again.

HOU Roger. Want to turn the manual heater off. Over.

HOU Over.

This is Gemini Control, 24 hours 33 minutes into the flight. We are out of range of Ascension now. Next station to acquire will be Tananarive at 39 minutes 58 seconds. We got no medical data at Ascension. That station is not set up for biomedical monitoring. The next station where we will get biomedical data is Carnarvon, Australia. We are due to acquire there at 24 hours 55 minutes 43 seconds elapsed time. This is Gemini Control.

END OF TAPE

This is Gemini Control, 24 hours, 39 minutes into the flight and Tananarive is just about to acquire the spacecraft. Has acquisition at this time. We'll stand by, putting in a call to the spacecraft now.

HOU Gemini 11, this is Houston, over at Tananarive.

HOU Gemini 11, Houston, at Tananarive, over.

S/C Roger, Houston, Gemini 11.

HOU Roger, this is Houston. Would like to put your 02 heater to auto over.

Conrad Roger. Listen, I just called Dick back in. We are repressuring the cabin right now. He got so hot and sweaty he couldn't see.

HOU Roger.

Conrad So we're back inside now and we've got about (garbled)

HOU Roger.

Conrad And the heater is manual at the moment.

HOU Roger.

Gemini Control, 24 hours 41 minutes into the flight. Pete Conrad the Command Pilot has instructed Dick Gordon to return to the spacecraft. He is in the spacecraft now and they are repressurizing. Pete reported that Dick was getting hot, prespiring very heavily and couldn't see so he brought him back into the spacecraft and they are repressurizing, at this time. We will continue to standby through this Tananarive pass. At 24 hours 42 minutes into the flight this is Gemini Control.

This is Gemini Control, 24 hours 44 minutes into the flight. We are continuing to standby at Tananarive. Apparently Pete Conrad has called off this umbilical EVA. The Flight Director does not expect that it will be attempted again. To recap a bit, Dick Gordon did get the tether attached between the Agena and the Gemini. The tether is attached. This is Gemini Control.

HOU Gemini 11, Houston, over.

S/C Go Houston.

HOU Roger. Is your heater on auto yet, over?

S/C Yes I've got the heater on auto and we're rigged up with the ELSS.

HOU Roger. I know how it is, when it gets where you can't see you got to close the lid.

S/C Okay, you are right John.

HOU Gemini 11, Houston. One minute to LOS at Tananarive.

This is Gemini Control, 24 hours 48 minutes into the flight. Tananarive has had LOS on Gemini 11. The next station to acquire will be Carnarvon at 24 hours 55 minutes 43 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control, 24 hours, 53 minutes into the flight. To recap on this EVA, the hatch was opened at 24 hours, 2 minutes, 8 seconds into the flight while in range of the Texas station. As near as we can determine in the Control Center, the hatch was closed 35 to 40 minutes later. Dick Gordon did retrieve the S-9 nuclear emulsion experiment. He attached the camera. He got out, went up to the Agena, straddled the Agena and put the tether on. At this time Pete Conrad, the Command Pilot evaluated the workload here as quite heavy, the breathing rate on the EVA pilot Dick Gordon was high, he was perspiring quite freely. Pete Conrad brought him back to the hatch, to the cabin, to rest and between Ascension and Tananarive made the decision to close the hatch, repressurize the spacecraft and call off this EVA. A decision which the Flight Director and the Mission Director wholeheartedly agree with. Now you've heard considerable mention during these last passes of the heater. This is a normal thing, has nothing to do with this EVA termination. This heater is used to keep the oxygen pressure up. To keep it gaseous, to keep it up and the heater is on a duty cycle and if left on too long could burn the heater up. So, they keep a close watch on this. When the O_2 pressure drops to a little bit low, they ask them to turn the heater on, bump the pressure up and then they want to turn the heater off after the pressure has risen sufficiently so that the heater is not burned up.

We are about to acquire at Carnarvon now and we'll standby for that pass through Carnarvon. This is Gemini Control.

CRO Flight, Carnarvon.

HOU Go ahead.

CRO Okay, the cabin is back up to 5.2 and Delta P's in the suit at zero and the O_2 tank pressure reads 650.

HOU Roger.

CRO Gemini 11, Carnarvon.

S/C Go ahead Carnarvon.

CRO Roger, we are standing by here. Looks like you've got the cabin repressed.

S/C Roger. We are just untangling all the junk.

CRO Roger.

S/C Let me recap for everybody. We stayed out about 44 minutes there and Dick got so much sweat in his right eye that he couldn't see anymore out of his right eye. Therefore, I didn't want him to get any hotter, doing any more work back there with the possibility of not being able to see out of the other one. So I called him in. We retrieved the S-9 and we hooked up the tether onto the Gemini from the Agena and we quit there. We retrieved the outside EVA film and the inside EVA film and that is where we stand right now. We are just resting and he is getting vision back in his eye and we're cleaning up the space-

craft, preparatory for a garbage dump later.

CRO Roger. What did you think about the system performance?

S/C Say again.

CRO What did you think about the performance of the systems?

S/C Say again Carnarvon.

CRO I say what did you think about the performance of the systems?

S/C The spacecraft systems are fine. I'll let Dick tell you what he thought about the ELSS.

GORDON The ELSS itself was okay. I was on medium flow, until after I got into the tether operation, where I went to high flow and obviously the cooling flow was pretty good but it rolls down my hand I have to stop (garbled) for a while.

CRO Roger we got that.

CRO How is the eye doing now Dick?

GORDON It is okay now. It's just normal flushed.

S/C I think the biggest problem that we encountered with the sweat is that even though he rested for five or six minutes it would not evaporate and he had no way of getting it out of his eye.

CRO Roger.

CRO Flight, Carnarvon

HOU Go ahead.

CRO We don't have any indication of S or C band track.

HOU Roger.

CRO Flight, Carnarvon.

HOU Standby Carnarvon.

HOU Carnarvon from Flight.

Carnarvon from Flight.

CRO Roger Flight. The parameter you asked for in the MI, X-ray roger 01, engineering units reads 48.9.

HOU Roger send us a contingency India on the Agena.

CRO Roger. It is on its way.

CRO Flight, Carnarvon.

CRO Flight, Carnarvon.

HOU Go ahead.

CRO That pitch horizon sensor, D041, it's reading 0 percent and it has been since acquisition.

HOU Pitch horizons sensor, what is the number?

CRO Delta 041.

HOU Roger.

CRO Flight, Carnarvon.

HOU Go ahead.

CRO Okay, our indications are that the C and S bands on the Agena are in fact on. However, we can't seem to lock on to the signal.

HOU Roger.

CRO It may be due to antenna pattern. I don't know what the attitude is.

HOU Roger.

END OF TAPE

CRO We are coming up on LOS, Gemini 11.

S/C 11, roger. We are still wrestling with the space in here.

CRO Roger.

HOU FLT Hawaii, from Flight..uh, Carnarvon, from Flight.

CRO Go ahead, Flight.

HOU FLT Send us a contingency Delta on the Agena. From your LOS proper.

CRO Roger. We have telemetry LOS, both vehicles.

HOU FLT Roger.

This is Gemini Control, 25 hours, 4 minutes into the flight. We have LOS at Carnarvon now. During this pass, Pete Conrad recapped for the people here in the Control Center the EVA portion of the flight. They placed the time hatch opening, to hatch closing, at 44 minutes; reported they did retrieve the S-9, the nuclear emulsion experiment; did hook up the tether; did retrieve the film from the cameras. However, they knocked off at that point, got back in, and repressurized. The Flight Surgeon, Dr. Charles Berry reports that over this Carnarvon Station the heartrates are returning to normal on both crewmen. He reported rates on Dick Gordon at about 100, on Pete Conrad about 80. The next station to acquire Gemini 11 will be Hawaii, at 25 hours, 21 minutes, 6 seconds elapsed time. This is Gemini Control.

END OF TAPE

This is Gemini Control, 25 hours 21 minutes into the mission. Hawaii has acquisition of Gemini 11. There has been no conversation yet but we'll standby throughout this Hawaii pass. for any air to ground transmission. This is Gemini Control.

HAW Hawaii has solid TM.

HOU Roger.

S/C Houston this is 11. You are coming through very poorly.

HAW Eleven, this is Hawaii.

S/C Oh, hello Hawaii. Read you loud and clear now.

HAW Okay. I don't know who was calling you.

HAW Flight, Hawaii

HOU Go ahead

HAW Looks like his biomed instrumentation circuit breaker might be open.

HOU Okay, we'll have to check.

S/C Say again Hawaii.

HAW Would you check your biomed instrumentation circuit breaker?

S/C Okay. It was off, we must have hit if off.

HAW Okay, thank you.

S/C We'll probably dump the garbage over the states. We have most of it packed away.

HAW Okay. You are going to have to boost up that O_2 tank pressure a little bit.

S/C Yes it's on its way up now.

HAW Okay. Your quantity looks good. Secondary two bottles are okay.

S/C Roger.

HOU Hawaii from Flight.

HAW Go ahead.

HOU Hey, you might tell him there is no big hurry on that, take their time whenever they are ready.

HAW Okay.

11, Hawaii.

S/C Go ahead.

HAW There is no big hurry on jettisoning all that equipment. Just kind of take your time, relax. Anytime will do.

S/C We're in fairly good order here. We have - as a matter of fact if you would like to copy, we'll tell you what we are going to jettison.

HAW Go ahead.

S/C Okay. We got both ELSS straps, both Y-connectors, one 3-foot umbilical, one pair of debris cutters, EVA long camera cable, EVA camera mount, two Appolo sump tank covers, wrist mirror, all lanyards, we also jettison the bags that we planned to jettison the EVA hoses were stowed in and we dumped some general garbage at the first hatch

opening.

HAW Okay, fine.

HAW How much weight was all that general garbage?

S/C It was 2-food bags with garbage in them, no I guess it was 4-food bags.

HAW Okay, we copy that

S/C Okay, that was about it.

HAW One minute until LOS, standing by.

S/C Roger, do we have permission to go ahead and depressurize over the states?

HAW You are GO from here.

S/C Check.

HAW Flight, Hawaii

HOU Go ahead Hawaii

HAW I gave him a go for repress over the states, okay.

HOU Yes that is okay. Are you satisfied?

HAW Roger, everything looks great.

HOU Roger, how is that O_2 pressure?

HAW They built it up quite high. It is about 80 right now.

HOU Okay.

HAW They went off the manual heaters, about 30 seconds ago.

HOU Roger.

This is Gemini Control, 25 hours 30 minutes into the flight. Hawaii has lost signal, California has acquired though and we'll standby live through this stateside pass.

HOU Gemini 11 this is Houston at California, over.

END OF TAPE

HOU — Gemini 11, Houston at California, over.

S/C — Go ahead, Houston, 11 here.

HOU — Roger, just stand by.

Conrad — Ok, we're just getting ready to depressure and dump this garbage.

HOU — Houston, roger.

11, this is Houston. You plan to jettison the ELSS to, don't you? Over.

Conrad — Over the side, yes.

HOU — Guaymas remote, California local.

GYM — Guaymas is remote.

CAL — California local.

Conrad — Houston, 11 is depressing at this time.

HOU FLT — This is Houston, roger.

Conrad — Houston the cabin is depressed and the hatch is open.

HOU FLT — This is Houston, Roger.

HOU — Texas remote, Guaymas local.

TEX — Texas remote.

GYM — Guaymas is local.

CAP COM — Gemini 11, Houston. Is your manual heater on? Over.

CAP COM — Gemini 11 Houston. Do you want to check your manual heater? It looks like you are venting 02, over.

Conrad I see the heater is on, we'll get it off. We just closed the hatch, and we are just locking it down, right now.

CAP COM Houston, roger.

Conrad 11, Houston, we are are repressured at this time.

CAP COM This is Houston, roger.

Conrad Going back to manual heater.

END OF TAPE

HOU Texas go local.

ANT Antigua LOS.

S/C Hello Houston, 11.

HOU Houston, go ahead.

S/C Roger. We have got the cabin repressurized.

HOU Roger. You can go ahead and power down and we will do S-11 at the normal time. Over.

S/C Roger. It will be a little while, John...we still have some restowing to do and do you want us to power down platform?

HOU Roger. At your discretion. Over. No hurry.

S/C Okay.

HOU Did you have any luck wipping the windows? Over.

S/C We didn't try.

HOU Roger.

END OF TAPE

HOU Gemini 11, Houston. A minute and a half to LOS at Antigua.

S/C Roger.

This is Gemini Control, 25 hours, 54 minutes into the flight. Antigua has lost acquisition of Gemini 11 now. Gemini 11 down off the east coast of South America in its 17th revolution. During this pass over the states Pete Conrad and Dick Gordon depressurized the spacecraft again and jettisoned the EVA equipment, repressurized the spacecraft. The next station to acquire will be the Rose Knot tracking ship at 25 hours, 57 minutes, 17 seconds it will be overlapping coverage there between the Rose Knot and the Ascension Island station. We'll come back up at acquisition time at the Rose Knot and go through that pass. This is Gemini Control.

END OF TAPE

This is Gemini Control, 25 hours, 57 minutes into the flight. The RKV has acquired Gemini 11. There has been no voice transmission yet between the Cap Com and the flight crew. We'll stand by live through this pass for any conversation. This is Gemini Control.

RKV — Gemini 11, RKV. We have nothing for you. We are standing by.

That's the first time their gyrocompassing to 180.

HOU — Roger. RKV, Cap Com, Houston Flight.

RKV — Flight, RKV.

HOU — Send us an Agena main please.

RKV — Agena main, Rog. OK, we show that he has the computer off, but the IMU is on at the present.

HOU — Roger. RKV, we'll have LOS shortly. RKV 11, what's your latitude, longitude?

RKV — 19,039 west.

HOU — Gemini 11, this is Houston standing by at Ascension, over.

S/C — Roger. How about a (garb) update?

HOU — We're getting it right this minute.

S/C — Thank you.

HOU — Gemini 11, Houston. One minute to LOS at Ascension.

S/C — Roger. Houston, 11.

HOU — Go ahead.

S/C (garb) 280000.

HOU Say again, over.

S/C We're going to eat lunch and pick up at 280000.

HOU Roger.

This is Gemini Control, 26 hours, 8 minutes into the flight. Ascension has lost acquisition of Gemini 11 now. Next station to acquire will be Tananarive at 26 hours, 16 minutes, 22 seconds. Very little conversation during this Ascension pass. This is a quiet time in the flight plan - no specific items scheduled. Pete Conrad and Dick Gordon getting their conkpit squared away, restowing some items, and as you just heard, they are getting ready to eat. They informed us that they will pick up the flight plan again at the 28 hour mark. The next two hours will be very quiet, probably not too much conversation but we'll stand by during the passes to pick up whatever there is. This is Gemini Control.

END OF TAPE.

This is Gemini Control, 26 hours 22 minutes into the flight. Gemini 11 just about to pass out of range at Tananarive, on its 17th revolution. We have - the best times that we have at the moment for the hatch open, hatch close time on the equipment jettison depressurization, 25 hours 31 minutes hatch was open, 25 hours 36 minutes hatch was closed. This was for the purpose of jettisoning the EVA equipment. We've checked with the Guidance and Control Officer, Gary Coen, on the number eight thruster. The crew reported low thrust on it earlier this morning. Gary Coen reports the thruster is still working and that there will be a check of this thruster within the next two to three revolutions, probably to try to get a check on this low thrust to determine what the thrust is. We have a tape of a brief conversation at Tananarive and we'll play that for you now.

HOU Gemini 11 this is Houston at Tananarive.

S/C This is 11, go ahead.

HOU Roger, we have this nodal update, over.

S/C Yes sir.

HOU At time 26 plus 41 plus 34 revolution 17, 127.1 degrees east, 1 hour 21 minutes right ascension. Over.

S/C Roger. Say again, rev number please.

HOU Rev number 17, over.

S/C Roger, 17.

HOU Gemini 11, Houston. One minute to LOS at Tananarive.

S/C Roger.

TAN Tananarive LOS.

END OF TAPE

This is Gemini Control, 26 hours, 37 minutes into the flight. Carnarvon has just lost acquisition of Gemini 11. There was a brief conversation between the Cap Com at Carnarvon and Pete Conrad on this pass. We have a tape of that and we'll play it for you now.

CRO Telemetry solid on both vehicles.
Gemini's go and Agena's go.

HOU Roger.

CRO Gemini 11, Carnarvon. We're standing by.

S/C Hello, Carnarvon, 11. Roger.

S/C Carnarvon, our status at this time is we have restowed and we are eating - just starting to eat - and we expect to pick up on the flight plan at 3:00:00.

CRO Roger. What you need is some wine, Pete.

S/C I'm with you.
How about a couple of us?

CRO 11, Carnarvon.

S/C Go.

CRO The pilot's external EKG sensor, we're not getting a regular reading down here. Could you ask Dick to press the sensor against his body?

S/C Which one?

CRO His external EKG.

S/C How's it doing now?

CRO Not any better. Coming in now. Okay, it looks good now.

S/C Now that we dumped the garbage this place looks like the grand ballroom up here.

CRO Oh, you're going to have a lot of fun tomorrow.

S/C Yep. We have a long day today to go yet.

CRO I don't know if you and I can survive a 23 minute pass.

S/C We'll see who wins.

CRO I'm going home to study it.

CRO Flight, Carnarvon.

HOU Go ahead.

CRO Okay, we're apparently having a problem with that external EKG sensor and if you want a reading you're going to have to have him press it against his body. We've lost it again.

HOU Roger.

CRO 30 seconds to LOS.

S/C Roger. Do we have you next trip?

CRO Negative. We'll see you tomorrow morning.

S/C Okay. Thank you.

CRO Rog.

CRO Carnarvon has LOS on both vehicles.

HOU Roger.

END OF TAPE

This is Gemini Control, 26 hours 52 minutes into the flight. Gemini 11 is over the mid Pacific Ocean, has not been within range of a tracking station since leaving Carnarvon. We will acquire at Hawaii in about 5 minutes. This is Gemini Control.

END OF TAPE

This is Gemini Control, 27 hours 7 minutes into the flight. Gemini 11 has just been acquired by the California station. It has passed out of acquisition at Hawaii. Over Hawaii, Pete Conrad reported that he fired the number eight thruster and it sounded like he got a good firing. The test on the thruster will be performed over the states during this pass. We have the tape of the Hawaii pass and we'll follow that through into the stateside pass and monitor the conversation between the crew and the ground during this test. Let's play the tape now.

HAW Telemetry solid Hawaii.

HOU Roger.

HOU Hawaii Cap Com, Houston Flight.

HAW Go ahead.

HOU Jim you might contact the crew, the command pilot. We have a test that we would like to perform TCA-8 over the states and we'll talk to him over California as to what the procedure is. Get his feeling on whether he thinks he can go ahead and do this.

HAW Roger.

Gemini 11, Hawaii.

S/C Go ahead Hawaii.

HAW Roger. Got some questions I would like to ask

in regards to what you jettisoned.

S/C Roger, go.

HAW Okay, what about the sextant bracket?

S/C Yes they are still aboard.

HAW Okay, and the umbilical stowage rack?

S/C That is still aboard.

HAW And the umbilical stowage bag straps.

S/C They are gone.

HAW Okay.

Eleven this is Hawaii. There is a little test we'd like you to try with regards to your TCA number 8 thruster and Houston will talk to you about it over California. They want to know what your feelings are on this, whether or not you'd like to go along with this test.

S/C Sure.

HAW Okay. Are you playing around with that circuit breaker?

S/C That is affirm.

HAW Okay.

S/C Sound like it is firing.

HAW Right, it did.

Looks okay down here now.

S/C Say again.

HAW Looks okay now and it did fire when you fired it.

S/C Yes, I was trying to listen to both seven and eight one at the time to see if they sound any different. They sound the same, they seem to be the same.

HAW Looks like the problem has rectified itself.

S/C Well it may still be a little soft, that I can't tell until I get the Agena on.

HAW Flight, Hawaii

HOU Go ahead.

HAW Okay, he powered up there momentarily to check out his eight thruster and he said he tried seven and eight and they both sounded the same. Then he powered down again.

HOU Roger.

HOU You said you confirmed it on the ground also.

HAW That is affirmative. We saw thruster activity.

HOU Okay. By the way, in reference to your earlier query, I'm satisfied with your reports Jim.

HAW Thank you very much. On this TM control switch, do you want them to go back to command or leave in real time and acq aid.

HOU Standby.

HOU Hawaii from Flight.

HAW Go ahead.

HOU We just as soon go to command.

HAW Okay. Eleven this is Hawaii. Will you go to command on your TM switch?

S/C Roger. Command.

HAW I want to transmit a TX.

S/C Roger.

HAW Okay, we have one minute to LOS. All systems are GO on the ground.

S/C Gemini 11.

CAL California has acquisition.

FD Californis go remote.

CAL California is remote.

HOU Gemini 11 this is Houston at California, over. Gemini 11 Houston at California, over.

HAW Hawaii has LOS all parameters.

HOU Roger.

HOU Gemini 11 this is Houston at California, over.

S/C This is 11, go.

HOU Roger, are you ready to copy this TCA number eight test procedure. It consists of ten steps, over.

S/C Be with you in a second John.

HOU Okay and we want to do it over Texas so that

they can get the data in real time telemetry at and look/it.

S/C Okay, lets go.

HOU The first step is spacecraft assumes control with Agena ACS off, that's three commands 300, 350, and 400. Then number two is direct mode, three-attitude drivers to primary, ACME control circuit breakers one and two on, four is yaw left to observe the roll rate effect. As the roll rate exists that's five, open and close circuit breaker number eight and see if the roll rate effect remains. Number six, if you have a roll rate open circuit breaker number seven, number seven, then yaw left for five seconds, number eight, if no thrust switch to secondary drivers and yaw again. Number nine, iff degraded thrust or still no thrust with secondary drivers, pulse in yaw 20 times and number ten, close circuit breaker number seven and yaw left again. Do you want me to say again all after number one?

S/C No, I think we're with you John.

HOU Okay.

S/C Okay you want us to do this over Texas so you can look at it is that right?

HOU Yes sir, and I'll tell you when you get to Texas.

S/C Okay.

FD Guaymas remote, California local.

GYM Guaymas is remote.

CAL California local.

FD Texas remote, Guaymas local

TEX Texas is remote.

GYM Guaymas is local.

HOU Gemini 11, Houston. You are in Texas now.

S/C Okay. ACS going off at this time.

HOU Roger.

S/C Standing by to yaw left on my mark, MARK. Roll right.

HOU Roger.

CONRAD We got to open number eight and yawed left and we rolled right.

GORDON Roger, rolled to the right.

HOU Roger.

S/C Yes, we got a soft thruster John.

HOU Are you on step number six now?

CONRAD We already did that John.

GORDON Just did that and number eight thruster doesn't work. It appears to be a little softer than number seven.

HOU Roger.

HOU Did you get the same thing when you tried the last time?

S/C Yes, we got the same thing John. It's just number eight soft.

HOU Roger.

HOU Secondary drivers didn't do it.

S/C Okay, we are going to secondary.

HOU Roger, did you go to secondary after the OAMS power switch was on, over.

S/C Roger. We just went to secondary with OAMS power switch on. We got the same results.

END OF TAPE

HOU Gemini 11, Houston. ECS is back on now, over.

S/C Roger, ECS is back on. We're gyrocompassing, TDA aft, FC 1.

HOU Roger.

HOU Texas local.

S/C Houston, 11.

HOU Yes sir. Houston, over. This is Houston, go ahead. Gemini 11, this is Houston, over. Gemini 11, this is Houston, over. Gemini 11, Houston, over. Gemini 11, Houston, over. Gemini 11, Houston, over.

S/C Go ahead.

HOU Oh, roger. You called? Over.

S/C No, but one thing that's come up here in the last hour or so, we noticed switching through our propellant, our prop gauge, that the temperature side seems to be intermittent. It seems to have an open in it, and almost any one of the selections - it'll jump up and down and go to zero - go to both scale off and come back and then read the temperature correctly.

HOU This is Houston, roger.

(Pause)

HOU Gemini 11, Houston. Could you get a source pressure and a prop quantity? Over.

S/C Roger. The source pressure is 1700 and about

20 pounds. Temperature is 59. And the PQI reads about 41 percent.

HOU This is Houston, roger.

S/C Did you copy my last on the PQI temperature - I mean, on the prop gauge temperature?

HOU That's affirmative. Over.

This is Gemini Control, 27 hours, 27 minutes and Gemini 11 is out of range of Antigua now. The spacecraft will be within range of the Rose Knot at 27 hours and 30 minutes. We'll come up at that time and stand by for the pass over that tracking ship. This is Gemini Control.

END OF TAPE

This is Gemini Control 27 hours 30 minutes and Gemini 11 is within range of the Rose Knot now. We will stand by for conversation over that ship.

RKV Gemini 11, RKV. We are standing by. We have nothing for you.

S/C Gemini 11, roger.

RKV ...RKV, we are showing O_2 tank pressure at 708. Do you think we should remind him to bump it up?

HOU Stand by. 708?

RKV That is affirm.

HOU That is okay, RKV.

RKV Okay.

HOU Send us an Agena main, please.

RKV Roger.
It is now up to 713, so apparently he is doing it.

HOU Is the manual heater on?

RKV Wait one.

HOU Don't ask him. You ought to be able to tell.

RKV Say again.

HOU Can't you tell from the ground.

RKV Yes, we could tell all right, if we had a real good base line on it. But see he was sort of semipowered up there on the last

RKV few summary messages.

HOU No, don't bother. We are not concerned.

RKV No, I wasn't going to ask him. I was just going - you know we have four meters to check out on.

HOU Roger.

RKV RKV. We will have LOS about a minute.

HOU RKV, Flight. Send us an LOS main Gemini, please.

HOU Gemini 11, Houston at Ascension. Standing by.

S/C Thank you.

This is Gemini Control 27 hours 42 minutes into the flight. Gemini 11 is down over the South Atlantic. Just passed out of range of the Ascension Island station. The next station to acquire will be Tananarive in about 7 minutes. This is Gemini Control.

END OF TAPE

RKV few summary messages.

HOU No, don't bother. We are not concerned.

RKV No, I wasn't going to ask him. I was just going - you know we have four meters to check out on.

HOU Roger.

RKV RKV. We will have LOS about a minute.

HOU RKV, Flight. Send us an LOS main Gemini, please.

HOU Gemini 11, Houston at Ascension. Standing by.

S/C Thank you.

This is Gemini Control 27 hours 42 minutes into the flight. Gemini 11 is down over the South Atlantic. Just passed out of range of the Ascension Island station. The next station to acquire will be Tananarive in about 7 minutes. This is Gemini Control.

END OF TAPE

This is Gemini Control, 27 hours 52 minutes into the flight. Gemini 11 is down over south Africa on the night side of its 18th revolution, within range of Tananarive now. We'll standby for air ground transmission during this pass.

S/C Hello Houston, 11 here. How do you read?

HOU Read you loud and clear.

S/C Okay. We had a wingman flying wing on us going into sunset here, off to my left. A large object that was tumbling at about one revolution per second and we flew - we had him in sight, I say fairly close to us, I don't know, it could depend on how big he is and I guess he could have been anything from our ELSS to something else. We took some pictures of it.

HOU Roger.

This is Gemini Control, 28 hours into the flight. Gemini 11 has just passed out of range of the Tananarive station. We have no additional information on this object reported by Pete Conrad. He was unable to identify it. He said it was tumbling at about one revolution per second and that they did obtain some photographs of it. The next station to acquire will be the tracking ship Coastal Sentry in the western Pacific

the time 28 hours 15 minutes 7 seconds elapsed. This is Gemini Control.

END OF TAPE

This is Gemini Control at 28 hours 16 minutes and Gemini 11 has just started talking to the CSQ. Here is that conversation.

S/C Okay, we purged the fuel cells at 28:00:00.

CSQ Roger, I'm sending you a TX at this time.

S/C Roger.

CSQ Okay I have a small flight plan update for you when you are ready to copy.

S/C Ready to copy.

CSQ Okay. At Hawaii, at 28:33:04, you'll get a PLA update. S-11 at 29:16:54 sequence 01, load able, do S-11 with platform powered up.

S/C Roger, do S-11 with platform powered up, going to platform G at this time.

CSQ Roger. After the S-11, purge section one then two and then power down. Delete the purge at 31:30. At 29:49:19, sequence 03, load able, last item at CSQ at 31:27:00 we'll have a crew status report. That is the end of the flight plan update. Over.

S/C Thank you. Just give me the time on the purge again.

CSQ Okay, that will be after the S-11, after the first S-11.

S/C Okay, actually they are together there, they

come S-11 sequence 1 and sequence 3.

CSQ Say again.

S/C They run together at times, it will be after the last S-11 you gave me.

HOU That is correct CSQ.

CSQ That is affirmative.

CSQ Flight, CSQ

HOU Go ahead

CSQ That H_2 tank pressure doesn't seem to be going up to much here.

HOU That is H_2?

CSQ It is on the H_2, right.

S/C CSQ, Gemini 11

CSQ Roger, go ahead.

S/C We've got another little anomaly for him to think about. Every time we turn on the cryo quantity, the O_2 or H_2 position we get a very dull valid cycle tone in the earphones which is something new. It started doing that about an hour ago.

CSQ Roger, we'll advise them of it.

S/C Thank you.

CSQ Did you copy that flight?

HOU Copy.

CSQ Hello eleven, CSQ.

S/C Go ahead.

CSQ Okay, would you have the pilot press on his sternal ECG sensor.

S/C I hear you, doing it now.

CSQ Okay, we are getting a good reading on that sensor now.

S/C Okay.

CSQ Gemini 11, CSQ. About one minute to LOS, we'll be standing by.

S/C Thank you.

HOU CSQ from Flight. Send us another Gemini main.

CSQ It is on the way Flight.

HOU Roger.

CSQ Flight, H_2 pressure is reading about 258 on the ground at this time. Do you want them to keep that heater on?

HOU Affirmative.

CSQ Okay.

CSQ Hello Houston Flight, CSQ Cap Com.

HOU Go ahead.

CSQ Okay we've had LOS on all parameters. Both vehicles were GO.

HOU Roger.

This is Gemini Control, 28 hours 23 minutes into the flight. Gemini 11 has lost acquisition at Coastal Sentry. The next station to acquire will be Hawaii at 28 hours 33 minutes 4 seconds. At that time a planned landing area update will be passed up to the crew. Also on this last pass we updated the time of the S-11, the Airglow Photography Experiment. It had been planned for about 30 hours 45 minutes into the flight, it will now be performed at 29 hours 16 minutes 54 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control, 28 hours, 33 minutes into the flight and Hawaii has acquisiton of Gemini 11. We'll stand by here for any conversation.

S/C Affirmative

HAW Roger.

HAW Gemini 11, Hawaii.

S/C Go ahead, Hawaii.

HAW Oh, roger. All systems are go here on the ground. I have a PLA update for you.

S/C Well, rog. We've been checking on this manual H_2 heater for the last 20 minutes and we're still hanging on till we get it up. Just a second and we'll get it copied.

HAW Okay.

HOU What are you showing on H_2, Hawaii?

HAW Uh, 28.

HOU Roger.

HAW Do you want them to keep it on manual?

S/C Go on that update.

HAW Okay. Area 19-4, 29:45:13, 20 + 47, 26 + 52, bank angle for all areas: roll left 85, roll right 95. Area 20-9, 31:05:24, 20 + 06, 26 + 12. Area 21-3, 32:40:38, 20 + 22, 26 + 35. Area 22-3, 34:15:29, 20 + 43, 27 + 02. SEP maneuver for all areas and marginal weather in 22-3.

S/C This is 11, copy.

HAW Roger.

S/C Hawaii, 11.

HAW Go ahead.

S/C Do you want us to leave the H_2 quantity read position on high. Is that right?

HAW Let me check on that.

Flight, Hawaii.

HOU That's correct.

HAW Okay.

That's affirmative, 11.

S/C Okay.

HAW You're hydrogen tank pressure is rising very slowly.

S/C Yes, we've been noticing it's been taking us 25 minutes to get it up there.

HAW Oh, one more day and then you can quit.

S/C Thanks.

HOU Hawaii from Flight.

HAW Go ahead.

HOU We're showing the L-band beacon is running pretty cool. We'd like to turn it back on for awhile. We'll try it till the sleep period. That's 071.

HAW Oh, roger.

HOU Hawaii from Flight. Send us a Gemini main.

HAW Gemini main, roger.

HAW 11, Hawaii.

S/C Go ahead.

HAW Okay, the temperature on the L-band is getting a little low, will you send 071 for us, please.

S/C Roger, 071, L-band on.

HAW Yeh, we got it. Thank you.

S/C Roger.

HAW Three and a half minutes to dump.

HOU Hawaii from Flight.

HAW Go ahead.

HOU Okay, you can tell him to go back to auto on that H_2 heater for awhile.

HAW Okay.

11, Hawaii, go back to auto on your H_2 heater.

S/C Roger, whoopee!

HOU The pressure rise is normal for this pass.

S/C It's only taken us three quarters of the way around the world to do that.

HOU Hawaii from Flight.

HAW I got ya. Go ahead.

HOU You might tell them their compressure rise is normal for this point of the flight on that one. It just took awhile.

HAW Okay, rog.

HAW 11, Hawaii. Incidentally, the pressure rise is normal for this portion of the flight on

that tank pressure.

S/C Okay.

HAW We have one minute to LOS, standing by.

S/C Okay, we're on the flight plan. We got the update copied and we're standing by to do the S-11 sequence from 1 to 3.

HAW Okay, we'll see you the next time around.

S/C Roger.

HAW Hawaii has LOS. All systems go at LOS.

HOU Roger.

This is Gemini Control, 28 hours, 41 minutes into the flight. Hawaii has had loss of signal but California will be picking up within the next 30 to 45 seconds so we'll stand by through this orbit, touches very briefly on the California and Guaymas stations, and just cuts off the corners of the ring of acquisition on those stations. We'll stand by through those passes.

HOU California go remote. California remote.

CAL California remote.

CAL Houston Com Check, this is California remote.

HOU Go ahead.

CAL We've been released.

HOU Oh, roger. Thank you.

END OF TAPE

HOU Guaymas remote. California local.

GYM Guaymas is remoted.

HOU Gemini 11, Houston in Guaymas. Over.

S/C Hello Houston, Gemini 11 to Houston. Over.

HOU Roger, this is Houston standing by.

S/C Okay.

Houston, 11.

HOU This is Houston. Go.

S/C Roger. This update time on the sequence 03 for S-11, is that sunrise time, 29:49:19?

HOU It is sunrise minus 4 minutes. Over.

S/C Okay. Roger. Thank you.

HOU Gemini 11, Houston. Over.

S/C Go ahead.

HOU Is this tone you get on the O_2 H_2 cyro, is that continuous or does it just last for about 20 seconds when you first switch to it? Over.

S/C It is continuous.

HOU Roger.

S/C It is something new. I never heard it before. About a couple of hours ago, we turned it on from off and it starting putting out this cycle tone; very dull in our ears. Now it may have been there, but I just started noticing it.

HOU Do you think you could sleep with it on? This

HOU is Houston, over.

S/C Oh, yes.

HOU Roger.

Gemini 11, Houston about 10 seconds until LOS at Guaymas.

S/C Roger.

This is Gemini Control, 28 hours 51 minutes into the flight. And Guaymas has loss of signal on Gemini 11. The next station to acquire will be the tracking ship Rose Knot down off the east coast of South America at 29 hours 5 minutes 59 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control 29 hours 5 minutes into the flight. Gemini 11 over South America just about acquired by the Rose Knot tracking ship. We will stand by for the conversation during this pass.

S/C RKV, Gemini 11. Over.

RKV 11, go.

S/C Are those numbers reading?

RKV Roger, go ahead.

S/C Roger, 9 event.

RKV Roger.

S/C And the ... looks like .11.

RKV Roger, copy. .11.

S/C That is as close as I could read it.

RKV Roger. Flight, did you copy the dosimeter reading?

HOU I copied the rate. Did you have another one?

RKV They had 90 vents and they had .11 rads per hour.

Is that all there is to that report?

HOU Stand by.

That is it RKV.

RKV Okay, mighty fine.

..RKV we will have LOS in about 1 minute.

Looks good from here.

S/C Roger. We are just standing by to S-11.

RKV Roger.

RKV RKV has had Gemini TX LOS.

HOU Roger, RKV.

This is Gemini Control 29 hours 15 minutes and the Rose Knot has lost acquisition of the spacecraft. Gemini 11 is coming up now in about a minute and a half to the night side of this revolution. At the start of this night side, they will be given the S-11 experiment. The airglow horizon photography experiment. This will be sequence 1, photographs of the eastem airglow. By the use of these photographs the experimenters hope to measure the height at which the airglow occurs in the upper atmosphere. The camera used here is a 70-mm camera with a 50-mm lens. This experiment will be conducted throughout this night side. The principle experimenters on the airglow horizon photography are Dr. M. Koomer, Mr. D. Packer and Dr. H. Friedman of the Naval Research Laboratory. The next station to acquire Gemini 11 will be Tananarive at 29 hours 27 minutes 26 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control, 29 hours, 20 minutes into the flight. Gemini 11 is in the nightside, should be performing sequence 1, the Eastern Airglow of this experiment. Additionally during this pass, sequence 3 will be performed. That's photographs of the sunrise airglow. This part of the experiment will be conducted between Tananarive and CSQ. Sequence 1 is the Eastern Airglow; sequence 3, Sunrise Airglow. This is Gemini Control.

END OF TAPE

This is Gemini Control, 29 hours 27 minutes into the mission. Gemini 11 is coming up on the Tananarive tracking station now. We'll standby for any conversation during this pass.

HOU Gemini 11, Houston at Tananarive standing by.

HOU Gemini 11, Houston standing by at Tananarive.

HOU Tananarive Cap Com, Houston Cap Com. Over.

S/C Hello Houston Cap Com, Gemini 11 here .

HOU Roger, Gemini 11. This is Houston standing by at Tananarive.

S/C Roger. We're in the middle of the S-11 experiment now.

HOU Roger.

HOU Gemini 11, Houston. One minute to LOS at Tananarive.

S/C Roger Houston.

This is Gemini Control, 29 hours 36 minutes into the flight. Gemini 11 has just passed out of range of Tananarive. The next station to acquire will be the Coastal Sentry tracking ship in the western Pacific at 29 hours 50 minutes 9 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control, 29 hours, 50 minutes into the flight. Gemini 11 coming within range of the Coastal Sentry tracking ship in the western Pacific. We'll stand by at the CSQ for any conversation during this pass.

CSQ — CSQ has TM on both vehicles.

HOU — Roger, CSQ.

CSQ — Gemini 11, CSQ Cap Com. Standing by.

S/C — Roger, CSQ. This is Gemini 11.....sequence 1 to sequence 3.

CSQ — Roger. I'm sending you a TX.

S/C — Okay.

S/C — CSQ, 11.

CSQ — Go ahead.

S/C — Ask Houston, they want us to power down the platform now, don't they?

CSQ — I believe so. Stand by one.

S/C — Okay.

CSQ — Did you copy that, Houston?

HOU — Say again, CSQ.

CSQ — The crew wants to know if you want them to power down the platform at this time.

HOU — Affirmative. Stand by.

HOU — CSQ, Houston Flight.

CSQ — Go ahead, Flight.

HOU — Stand by on that. I think we want to do a purge before we power down. Stand by.

CSQ Roger.

CSQ 11, CSQ. Stand by on that power down.

S/C Roger. Standing by.

CSQ Okay, Flight. He's shut off his OAMS thrusters and the ACS is back on.

HOU Roger.

CSQ Flight, CSQ.

HOU Go ahead.

CSQ He was supposed to have purged after that first S-11.

HOU No, on the second one. Have him purge the fuel cells 1 then 2 and then he can power down.

CSQ Roger. Suppose he's already done it?

HOU Well, there's not much we can do if he has.

CSQ 11, CSQ.

S/C Go ahead.

CSQ Okay, did you purge after that first S-11?

S/C No, we went right through from it to the other one. We'll have to purge now.

CSQ Okay. If you do your purge now then you can power down after the purge.

S/C Okay.

S/C .....the purge.

CSQ Oh, roger. We're copying that.

HOU CSQ, Houston Flight.

CSQ Go ahead, Flight.

HOU I'd like to get a quantity read on the O_2 after he gets through.

CSQ Say again, Flight. I couldn't read you.

HOU I'd like to get a quantity read any time during the purge, on O_2.

S/C Okay, oxygen's on in section 2.

CSQ Say again, 11.

S/C The oxygen's on in section 2.

CSQ Okay, roger.

CSQ Houston Flight, CSQ.

HOU Go ahead, CSQ.

CSQ I will not have a chance to get that cryo O_2 quantity readout prior to LOS.

HOU Say again.

CSQ I say, we will not have a chance to get that cryo O_2 readout prior to LOS.

HOU Okay.

CSQ 11, CSQ. About a minute to LOS. We'll stand by.

HOU Can we have another Agena main, CSQ.

S/C The fuel purge in number 1 is.....

CSQ Hello, Houston.

HOU CSQ, can we have another Agena main, please?

CSQ Roger.

This is Gemini Control, 29 hours, 59 minutes into the flight. Gemini 11 just passed out of range of the Coastal

Sentry tracking ship. The next station to acquire will be Hawaii at 30 hours, 8 minutes, 34 seconds. Pete Conrad and Dick Gordon powering down their spacecraft now. Over Hawaii they will perform the Neurospora, or pink bread mold, portion of the S-4 experiment. This is to determine if a relationship exists between the effects of weightlessness and radiation of white blood cells and Neurospora. This portion over Hawaii will be the Neurospora portion, and will be activated by pilot Dick Gordon. He'll turn a crank on a small unit on his hatch. This will expose the Neurospora to a radiation source. He'll give a time hack when he does this so that the ground control experiment can be performed at the same time. We'll pick up the pass over Hawaii at 30 hours, 8 minutes, 34 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control, 30 hours 8 minutes into the flight. Gemini 11 coming up on the Hawaii station in its 19th revolution. We'll standby Hawaii for this pass.

S/C Roger standing by.

HAW Okay, about 20 seconds.

S/C Roger.

HAW 5, 4, 3, 2, 1, MARK.

S/C Roger its activated.

HAW Okay, would you place your quantity read switch to O_2 please.

S/C Quantity read, O_2.

HAW Okay, back to H_2.
I have a PLA update for you.

S/C Standby.

S/C Okay, go ahead.

HAW Okay. Area 23 delta, 35 14 19, 20 plus 11, 25 plus 12, bank angle for all areas roll left 85 roll right 95. 24 delta, 36 48 57, 19 plus 57, 24 plus 53, 25-2, 38 24 37, 19 plus 41, 25 plus 07, 26-2, 39 59 57, 19 plus 45, 25 plus 21, 27 echo, 41 31 00, 34 plus 48, 38 plus 20, 28-1, 43 13 35, 34 plus 01, 37 plus 47, 29-1, 45 01 44, 20 plus 16, 26 plus 06, 30-1, 46 37 05, 20 plus 19, 26 plus 11, set maneuver for all areas and

the weather is good in all areas. I have a note for two of these areas. For area 27 echo and 28-1, fire rockets one, two, and three only at 0 degrees pitch attitude. Standby for a minute.

HAW Flight, Hawaii

HOU Go ahead

HAW Okay,are these negative degrees for ball.

HOU That is affirmative.

HAW Okay. Retro ball readings for 27 echo is minus 23 degrees for 28-1 it's minus 27 degrees.

S/C I'm not sure we quite understand those retro ball angles.

HAW We'll check on them for you, standby. What about that flight?

HOU Standby Hawaii.

HAW We've got them thinking.

S/C Very good.

HOU Can we have another Agena main? Hawaii we'll be with you in a moment.

HAW Roger Flight.

S/C The guy that made them up probably went home on the last shift.

HAW I tried to call him before the pass but he was

was out of the office.

HOU Hawaii, Flight.

HAW Go ahead

HOU Can you get the crew to raise the H_2 pressure to 670 please.

HAW 670.

HOU Onboard. 670.

HAW Flight they have been trying to do this. They can't get it much higher then it is right now, but I'll tell them.

HOU Okay. Very good.

HAW 11, Hawaii.

S/C Go ahead.

HAW Okay, they want to boost up that H_2 tank pressure again.

S/C Oakie, doakie.

HAW Flight, Hawaii.

HOU Standby Hawaii.

Go ahead.

HAW Roger. Just a comment, they held that thing for 45 minutes and it never did get much higher than they are right now.

HOU Okay, understand.

HAW 11, this is Hawaii. We are going to lose you in a little bit. They are going to have an answer for you on those ball angles over RKV.

S/C Okay. We thank you.

S/C We'll run this gage up to where it was the last time, Flight.

HAW Okay, we copy that.

S/C We weren't quite to 670 at our gage reading.

HAW Flight, Hawaii. We've had LOS of all parameters, all systems were GO at LOS.

HOU Okay. We have the answer to that question now but you were getting so close to LOS we'll do it at RKV.

HAW Okay.

HOU The question of the true anomaly that you fire right there and apparently the crew weren't aware of those. I have those numbers here and I'll give them to RKV.

HAW Okay fine.

This is Gemini Control, 30 hours 18 minutes. Gemini 11 out of range of Hawaii now. The Gemini orbits for the next few hours dip down away from the United States so we won't get any acquisition at United States tracking stations. The next station to acquire will be the Rose Knot at 30 hours

42 minutes 29 seconds. This is Gemini Control.

END OF TAPE

42 minutes 29 seconds. This is Gemini Control.

END OF TAPE

This is Gemini Control Houston at 30 hours 32 minutes into the flight of Gemini 11. We are standing by now as we approach the ring of acquisition of Rose Knot. We should be acquired by the Rose Knot off the coast of South America momentarily.

RKV We have had initial contact with the vehicle. The Agena is okay.

HOU Roger.

RKV And Gemini is go.

HOU Roger.

RKV 11, RKV. Would you turn the encoder off please so we can load a VM word?

S/C Roger. Encoder on off.

RKV Okay, and I have that information for you on the ball angles whenever you are ready to copy.

S/C Ready to copy.

RKV Okay, that is ball angles for those two areas are based on different true anomalies than what was discussed with you. For area 27-E, it is based on a true anomaly of 208 degrees for area 28-1 it is based on a true anomaly of 212 degrees. Yes, they are going to do an OAMS retro. It will be based on a true anomaly of 190 degrees and the other pertinent information associated with an OAMS retro will be

RKV updated to you at that time. Do you copy?

S/C We copied.

RKV Roger, very good. Also have a two-item flight plan update for you.

S/C Go ahead.

RKV Okay, the first item is a node time 34 12 39 it will be rev 22; it will be 11.7 degrees east 01 12 right Ascension. Second item is at Antigua at a time of 40 15 30. You will have a crew status report. Over.

S/C This is 11. Copied.

RKV Roger, that is all we have for you at this time. We have a valid DM in and you can turn your encoder back on.

S/C Encoder on.

RKV Roger.

S/C RKV, Gemini 11.

RKV Roger, 11.

S/C Roger, would you check with the surgeon down there. I would like to take a Foxtrot.

RKV Stand by.

Houston do you copy?

HOU Roger, we concur.

RKV Roger. Roger we concur with the Foxtrot.

S/C Okay. Consider it at this time.

RKV Roger.

Gemini Control Houston at 30 hours 47 minutes and we have reached a quiet period during the pass over Rose Knot. The Agena was loaded during this pass by the RKV for their big posigrade burn which is scheduled at 40 hours 30 minutes 15 seconds at this time. The information which was loaded aboard the Agena will be reverified however, later in the evening prior to that burn. And we continue to stand by now as we continue over the Rose Knot tracking area.

HOU RKV, Flight.

RKV Go ahead, Flight.

HOU You haven't given them the update, the time message yet.

RKV That is negative.

HOU How about doing that?

RKV You want that on this rev? That is 21, isn't it? -

HOU Stand by -

RVK ..the Agena, rev 21 maybe. Yes, I'll bet that is.

HOU Yes, go ahead. Have you got time?

RKV Gemini 11, we have an update for you. Height adjust.

S/C Roger. Wait one. We are ready to copy.

RKV We will probably have LOS during this GETB 40 29 59; Delta V 912.3; Delta TV 01 plus 50, R 25 09123 thrusters PPS; maneuver forward, posigrade. Over.

Flight, I think we have had LOS.

HOU Okay, we will get CSQ to do that. That was our goof. Sorry about that.

Gemini Control Houston. We have had LOS with the Rose Knot and during or just prior to LOS there were update times and Delta V for the posigrade burn being passed up to the crew. This is Gemini Control.

END OF TAPE

Gemini Control Houston at 32 hours 52 minutes into the flight, into the Gemini 11 mission. The Gemini 11 spacecraft with its Agena is now approaching on the 21st revolution, the Asian Continent. It will next be acquired by the Coastal Sentry. This would be at 33 hours and 2 minutes and 34 seconds into the mission. There will be no conversation over this pass since the crew has entered into its rest period. Prior to the start of their sleep period, however, we did have some final contact with the Gemini 11 crew, Pete Conrad and Dick Gordon, and at this time we'll play back tapes which were taken over Tananarive, the Coastal Sentry and Hawaii. We'll now roll those tapes.

FD Tananarive go remote.

TAN Tananarive remote.

HOU Gemini 9, Houston.

S/C 11, go ahead.

HOU You gained two numbers on me. Listen Dick are you on 2B-bumps yet?

S/C No

HOU Lets go to 2B-bumps now.

S/C Okay. We're on 2B-bumps.

HOU Okay. We're standing by

S/C You got the duty?

HOU Yes it's about time I did something.

S/C Say again.

HOU It's about time I did something.

S/C Laughter

HOU Have handball in a half hour.

S/C Roger.

TAN Tananarive LOS.

HOU Okay.

CSQ AFD, CSQ Cap Com.

HOU Go ahead.

CSQ Okay, the pit count on baker alpha 04, do you reach John, is 163.

HOU Roger.

CSQ You want to turn the heater off, right?

HOU Right turn the heater off.

CSQ Gemini 11, CSQ Cap Com.

S/C Go ahead CSQ, 11 here.

CSQ Okay you can turn your H_2 heater off now.

S/C I'm going to go from auto to off .

CSQ That's affirm.

S/C Roger, it's off.

CSQ Okay I'm going to send you a TX. Then we're ready for your [redacted] status report.

S/C Roger. Come again.

S/C Let's see for the command pilot lunch, ate meal 2 Charlie. The command pilot ate, now the pilot, and for dinner we ate meal 3 Charlie. We're still in the process of eating that and I would suspect that the command pilot will not eat any solids again. The pilot ate 2 Charlie for lunch and ate 2/3's of everything. Now the pilot is in the process of eating meal 3 Charlie right now, everything. (garbled) reads 1040 and it's about equally split.

CSQ Roger copy all that. Did you get all of that Agena burn update over RKV?

S/C Roger. We'll read it back to you just to see if we got it right.

Roger copied the translation for 40 29 55, delta P is 512.3 duration 01 plus 50, core 25 - 09 1 23, forward posigrade, over.

That's a PPS burn.

CSQ Roger, you got it all. Okay we'd like to have you getting to the pilot just before his sleep period, hold both of the EKG's sternal sensors for about five minutes and hold them firmly depressed to the body. We figure that it may stick backhen there and if we leave them loose over night the adhesive may dry.

S/C Roger understand.

CSQ Would you turn your encoder off we want to reset the clock and turn the L-band off.

S/C Encoder is off.

CSQ Okay, we checked your TM words that RKV put in. It's good, you can turn your encoder back on.

S/C Roger, encoder is on.

CSQ Flight, CSQ

HOU Go ahead.

CSQ Okay, primary ECS is 37.9, secondary is 37.3.

HOU Roger.

CSQ That was at AOS, present reading on secondary is 37.0, primary remains the same.

HOU Roger

CSQ Both vehicles on the GO.

CSQ We checked the VM load it is good. We turned the L-band off, we sent reset timer reset.

HOU Roger

CSQ Made sure he had copied all the Agena burn data over the RKV.

HOU Say again CSQ. CSQ, Flight, say again.

CSQ Said the crew had copied all of the Agena burn update over the RKV

HOU Roger

HOU Roger, I got that thank you.

AFD CSQ Cap Com AFD

CSQ Go ahead AFD

HOU Roger, he come through, he wants them to leave the H_2 heater off and but the lowest pressure he'd like for them to let this go to is 410 psi. We don't expect any problems.

CSQ We will just have to watch it on the ground here that is all.

HOU Right.

CSQ Leave the heater off though.

HOU Right.

HOU What was the drink gun count?

CSQ 1040.

HOU Okay thank you.

CSQ It was equally divided among the two.

HOU Say again

CSQ I was about equally divided among the two.

HOU Okay.

CSQ Gemini 11, CSQ

S/C Go

CSQ Okay we got about one minute here before LOS. We're standing by. Have a good nights

sleep.

S/C Roger, thank you. We'll need it.

CSQ Hello Houston Flight, CSQ

HOU Go ahead CSQ

CSQ Okay, we've had LOS both vehicles. Both vehicles go going over the hill and our LOS reading on the primary ECS ..... control was 37.4 and on the secondary loop was 37.5.

HOU That is good, thank you.

HOU Hawaii Cap Com, AFD

HAW Go ahead, Hawaii.

HOU How is the tape dump?

HAW We received tape dump.

HOU Say again.

HAW Looked good.

HOU Okay.

HAW LOS Gemini, LOS Agena.

HOU Roger

HAW All systems were go at LOS.

HOU Roger Hawaii

HAW I guess that is our last pass with you this morning.

HOU I guess so. This afternoon, here.

HAW This afternoon.....

HOU Say again

HAW This afternoon here to, it is 12:30.

HOU Oh, very good. I guess we'll see you tomorrow afternoon then.

HAW Roger.

Gemini Control Houston. You heard Neal Armstrong pass on to Pete Conrad over Tananarive that he planned to play handball. Well he hasn't , he is still in the Mission Control Center serving at the present time as Cap Com. Meanwhile in Mission Control Center the mauve team of Flight Controllers have taken over and a gentlemen named John Hodge who was with us eight hours last night is back again tonight. Although Mr. Hodge is not officially listed as Flight Director, he does like to keep his hands in these activities. Otherwise, we're monitoring systems in the Mission Control Center. The apogee - perigee is being clocked as before at 166.5 nautical and 154.6 nautical and at 33 hours 2 minutes 30 seconds this is Gemini Control.

END OF TAPE

Gemini Control Houston at 34 hours, seven minutes into the Mission, into the flight of Gemini 11. Gemini 11 is now undergoing its 22nd revolution. It is passing over Ascension at this point in time. The crew is still in their sleep period and will be for some time, therefore we will have no contact with the crew. These are the numbers we are looking at with regard to the PPS or primary propulsion system Agena burn, over Canary. The time of the PPS burn will be 40 hours, 30 minutes, 15 seconds into the mission. It will be a posigrade burn of 920 feet per second. The time or duration of the burn will be 25 seconds. This should put us - will put us - in a new apogee of 740.2 nautical. Two revolutions later at 43 hours, 52 minutes, 54 seconds at the tail end of the Eastern Test Range, the retro burn of 920 feet per second will occur to reposition us to the lower altitude. Incidentally, the crew should see at the time of the burn, a slight glow with the SPS ullage burn of 70 seconds. And according to John Young who has witnessed this sight, the PPS burn, he says it was his experience that the PPS burn did light up the sky and we fully expect in this instance it would light up nightside pass or night sky. During this quiet period, we also have what we will describe as an out-of-plane observation relative to Gemini 11 and the PPS burn. Pete Conrad stands at 5 feet 6 and 1/2 inches and Dick Gordon stands 5 feet, 7 inches. Even in this profession the astronaut selection height limitation is 6 feet. They are very short men. Collectively in fact, they are the

shortest. Therefore, when the big burn is made over Canary, the United States shortest Gemini flight crew will start on man's tallest trip in history. At 34 hours, 10 minutes into the mission, this is Gemini Control.

END OF TAPE

Gemini Control - Houston at 35 hours, 7 minutes into the mission -- into the flight of Gemini 11. Gemini 11 is now on its 22nd revolution. It's passing over the mid-Pacific far to the south of the United States. On this particular pass, it will traverse over the South American continent. Its next point of acquisition, and this will be some 22 minutes from now at 35 hours, 29 minutes, 44 seconds into the mission, will be with the RKV off the eastern coast of South America. Flight Surgeon John Zieglschmid advises that the Gemini 11 crew was asleep within one hour from the time their official sleep period began. This is in contrast with the four to four and a half hours of sleep they obtained last night. Current pulse readings are on Pete Conrad 47, on Dick Gordon 60. Respiration rates are 13 for Pete Conrad and 14 for Dick Gordon. Weather advisors for the high apogee revolutions -- these would be revolution 26 and 27 -- on both revolutions as the spacecraft starts its rise over Africa, it will be flying over mostly cloud-free terrain. Over Eastern Africa, extensive tropical cloudiness will be visible to the south. Arabia, the Red Sea and the Persian Gulf will be mostly clear. Then over the Indian Ocean, there will be cloudy or partly cloudy conditions all the way to Australia. In the Equatorial part of the Indian Ocean and over parts of Malaysia and Indonesia, the crew will see extensive areas of showers and thunderstorms. Parts of

India will be visible, although there will be considerable cloudiness over India. Near apogee, Australia will be mostly clear except for clouds near the southwest and southeastern coasts. Also according to weather from the planned height in this area -- this is the area of apogee -- the crew should be able to make out islands 2,000 miles to the north and should be able to see winter storm systems far to the south. Earlier the S-5 and S-6 experimentors had advised that photographs secured should cover an area of some three-quarter of a million square miles and four or five of these pictures with these dimensions would cover the entire US land mass. At 35 hours, 11 minutes into the flight of Gemini 11, this is Gemini Control.

END OF TAPE

Gemini Control - Houston at 36 hours, 7 minutes, 38 seconds into the flight of Gemini 11. The Gemini 11 spacecraft continues in its powered down flight mode while the crew is still resting in the sleep period. We have some three hours yet to go before the crew is awakened. A bit over three hours, as a matter of fact. The Gemini 11 spacecraft is nearing acquisition with the Coastal Santry. We're six minutes away at this time from acquisition by Coastal Sentry. All systems continue to be monitored, however, even though all aspects of the mission are quiet at this particular time. In the Mission Control Center, Al Bean has relieved Neil Armstrong as CapCom. He's reviewing plans and procedures now to prepare himself for the very active day that lies ahead, the day that starts with the PPS burn. At 36 hours, 8 minutes, 55 seconds, this is Gemini Control.

END OF TAPE

Gemini Control - Houston at 37 hours, 7 minutes,39 seconds into the flight of Gemini 11 -- into the Gemini 11 mission. Gemini 11 has just been acquired by the Rose Knot Victor. Again in this pass during the 24th revolution, there will be no effort whatsoever to contact the crew as they are sleeping and will continue to sleep until 39 hours and 30 minutes into the mission. At this time we do have an updated flight plan which covers most of this morning's -- covers this morning's activities. At 39 hours, 30 minutes into the mission, the crew will be awakened, and the spacecraft powered up. Between 40 hours and 40 hours, 25 minutes into the mission, the platform will be aligned. At 40 hours, 29 minutes, 59 seconds, we will have the PPS apogee adjust. This is the posigrade burn to place the spacecraft and its Agena Target Vehicle into a high apogee of 740.2 nautical miles -- local time -- local Central Standard Time -- this will occur at 1:12:26 A.M. During the high apogee period of the mission, S-5 and S-6 experiments will be carried out, the synoptic weather and synoptic terrain experiments. The first set of these will occur between 40 hours, 45 minutes and 41 hours, 25 minutes. Between 41 hours and 41 hours, 25 minutes, ambient data will be gathered for the ion wake measuring experiment. At 41 hours, 25 minutes to 42 hours, 10 minutes, the S-11 photography experiment -- this is the airglow horizon photography, will be accomplished. At 42

hours, 10 minutes to 43 hours into the mission, we will have additional synoptic terrain and weather or S-5 and S-6 photographs taken. At 42 hours, 40 minutes to 43 hours, 15 minutes, we will gather additional data for the S-26 experiment -- the ion wake experiment. At 43 hours, 52 minutes, 54 seconds -- this would be at 4:35:21 Central Standard Time -- we will have the PPS apogee adjust. This will be the retrograde burn of the primary propulsion system to return it to its original apogee/perigee profile. At 44 hours and 5 minutes over Canary, we'll have a crew status report; and between 44 hours and 46 hours ground elapsed time, we will start EVA preparations. And between 46 hours and 48 hours, 20 minutes into the mission, the standup extravehicular activity is scheduled. Between 46 hours, 10 minutes and 46 hours, 50 minutes, we will have the S-13 Mode A -- this is the ultraviolet photography of selected star fields -- the Mode A is a designation for defraction grading exposure. At 47 hours, 40 minutes to 48 hours, 20 minutes, we will have Mode B of the same experiment; and this is utilizing the prism exposure. At 37 hours, 12 minutes into the mission of Gemini 11, this is Gemini Control.

END OF TAPE

Gemini Control - Houston at 38 hours, 7 minutes into the flight of Gemini 11 -- into the Gemini 11 mission. The Gemini 11 spacecraft is now taking a long pass over the Pacific, and we have a long stretch ahead of us before we're under acquisition again, and this will be over Canary at 38 hours, 51 minutes into the flight of Gemini 11. Following its pass over Coastal Sentry, Coastal Sentry was advised that it could sign off for the evening as it would not acquire the spacecraft again. Meanwhile in the Mission Control Center - Houston, we've just been advised that the crew will be awakened earlier this morning. This will be in the order of 30 minutes from the original plan. Their wake-up time will be in the magnitude of 39 hours elapsed time into the flight. Meanwhile, our countdown clock is steadily counting down toward the primary propulsion system burn -- the burn to place the spacecraft into a high apogee. And additionally rings on the orbital dynamics display -- this is a circular display which gives the spacecraft and the target vehicle altitudes -- their apogees and perigees -- this is now configured to an outside limit of 250 nautical, but it will be changed shortly to reflect 1,000 nautical mile outer limit or outer ring, and this will be to compensate for the high apogee which will be accomplished with the PPS burn. At present the crew is sleeping soundly, the Flight Surgeon advises. Pulse rates read as follows: on

Conrad -- 43; Gordon -- 53. Respiration rates,Conrad -- 11; Gordon -- 12. And at 38 hours, 9 minutes, 50 seconds into the flight, this is Gemini Control.

END OF TAPE

Gemini Control - Houston at 38 hours, 51 minutes into the flight -- into the mission of Gemini 11. The Gemini 11 spacecraft with its crew, Pete Conrad and Dick Gordon, is now approaching acquisition with Canary. Canary has been advised to awaken the crew during this contact. We're standing by now.

HOU FLT — Canary, Houston Flight.

CYI — Go ahead, Flight. This is Canary.

HOU FLT — One more thing I want you to do, Buck, after the crew is up and after they've had time to look around, I want you to get them to send ERT clock reset 060 at their convenience.

CYI — Roger. We have C-Band track. Tape dump is in progress. TX has been sent. I'm going to go to the crew at this time. Gemini 11, Canary CapCom. Gemini, Canary. Gemini 11, Canary CapCom.

S/C — Were up.

CYI — Hello there, Gemini. How are you feeling?

S/C — Just fine. We have been up for about 20 minutes. We are starting to get figures for high altitude.

CYI — Roger, we decided to wake you up about 30 minutes earlier this morning to let you have time to get ready.

S/C — Okay.

CYI Okay, I would like for you to place H_2 heater to the AUTO position if you would.

S/C Roger, H_2 to AUTO.

CYI Okay, and then at your convenience would set reset timer reset to the Agena at 0[illegible].

S/C Roger, we are doing that now.
And I think we would like to go ahead and start to power up early, if it is alright.

HOU Go ahead.

CYI Roger, go ahead, power up.
Like to remind you that before your next pass is up, like for you to go to TDA forward.

S/C Roger, were going to start that.

CYI Okay, that is about all we have for you at this time.

S/C Roger.

This is Gemini Control, Houston. The crew is advised to have their target docking adapter FORWARD, this of course, would be for the Primary Propulsion System burn. They advised Canary that they had been awake for some 20 minutes, and also, they expressed a desire to power up early. At 38 hours 55 minutes this is Gemini Control.

END OF TAPE

Gemini Control - Houston at 39 hours, 2 minutes. CapCom Al Bean has just contacted the Gemini 11 crew via Kano remote.

S/C .... we've got something for you. We'll take you up later.

KNO Roger, we're running pretty short any way.

S/C ..... when we get a map on the second time we sent the same command.

KNO Roger. Is it performing as per your command?

S/C Say again.

KNO Is it performing as you commanded even though you only get a map the second time?

S/C Well, I'm not sure of that. We just discovered this when we started .....

END OF TAPE

This is Gemini Control - Houston, 39 hours, 7 minutes into the flight. As I believe was reported earlier, the crew was awakened at some 20 minutes ago at approximately 11:30 PM Central Standard Time. After six and a half hours of what the surgeon describes as sound sleep -- six and a half hours sleep. They were awakened during the Canary Islands pass. They're perhaps 10 minutes -- 5 to 10 minutes east of the Canary station now, and we've had no contact with them since that period. They should have completed a fuel cell purge over the Canaries, and performed a tape dump. A little later in this pass, they'll be powering up -- they're in the process of powering up their entire spacecraft now preparatory for the big burn just an hour or two from now. This is Gemini Control - Houston.

END OF TAPE

This is Gemini Control, Houston, 39 hours 22 minutes into the flight. The Black Team - the Flight Controllers are in the Control Center right now. And the Flight Director, Glynn Lunney is going around console by console and getting a status report. He is presently talking to the Flight Surgeon, Dr. Hawkins on this shift. Dr. Hawkins has advised among other things that, as we indicated earlier on the length of their sleep, he described as quite sound. He noted that they got to sleep much earlier than they did last night. It took them less time to power down, as he put it. Six and one half hours of sound sleep, and he said their rates were quite basal. He said their water intake over the last 24 hours runs about 60 ounces per man, and he said he was completely satisfied in all respects with their physical status. The time - elapsed time on the big burn is still being carried as 40 hours 30 minutes into the flight, about one hour from now - a little more than one hour from now. Of some interest may be the various ways in which the Agena can be shut down - the big engine on the Agena. Certainly it might be of curiosity to reporters working this story. There are three primary ways available to the crew onboard to shut down the Agena. No. 1 is Velocity Meter into which the specified velocity may be requested and when the meter reaches that - it is much like the Flight Director needles in the spacecraft. It is a measurement device, and when the desired

velocity is reached, the engine is so wired that it automatically shuts down. In addition, the crew has a toggle switch which is a direct hard-line connection to the engine which can be flipped in order to shut the engine down if they so desire. They can also send commands to the Agena through their little hand device - a punch-board device which operates on a 3-digit code, and there are several commands available to them which could shut down the Agena that way. In addition, the ground can send commands to the Agena, but this - they hesitate to do so in a docked configuration. At 39 hours 25 minutes into the flight, this is Gemini Control, Houston.

END OF TAPE

This is Gemini Control, Houston, at 39 hours 37 minutes into the flight. The Flight Director has continued to check and re-check with his various Flight Directors. He is very interested in insuring these two stations have verified the command functions in the vehicle. This seems to be the primary subject occupying his time, I don't think he has any reservations about it, but he just wants the assurance that it can be gotten from at least a double station check. on the receipt of the various commands from the Agena. The weight of the Agena coming up on this burn is 6,956 pounds, the weight of the Gemini is 7,669 pounds. The total velocity - delta velocity available in the Agena Primary Propulsion System is 2,670 feet per second. That is in a docked configuration - in an undocked configuration, it is approximately twice that. The Agena also has available about 193 feet per second available in its Secondary Propulsion System, 193 feet per second. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control, Houston, 39 hours 52 minutes into the flight. Gemini 11 and its companion Agena are moving across the South Pacific preparatory to the big burn which will take place just west of the Canary Islands. The latitude at the start of the PPS burn will be 26.5 degrees North - that's 26.5 degrees North latitude. The longitude will be 20.7 degrees West - 20.7 degrees West longitude. At that time, the spacecraft will be in an altitude of 155.4 nautical miles. It will be just west of perigee to not quite on perigee but just west. The weather bureau - the weather advisers here in the Control Center advise that there are - the East, Northeast Africa is relatively open. The area over Decar - the eastern tip of Africa is pretty well socked in with low stratus clouds. Mixed cloud activity across the Indian Ocean, considerably cloudiness over the Jakarta area, but southeast of Jakarta is on the - building up to the first apogee at the high altitude. The area is described as quite open and free of clouds. The entire Australian continent relatively open and free of clouds, some cloudiness noted along the Southern coast but it is confined to the Southern coast of Australia. The desert region is completely without clouds. The first apogee would be achieved over Australia. According to present plans, the burn - 912 feet per second desired, this would give us

if completely successful, a new apogee of 740 nautical miles. We have had no contact with the crew since the Canary pass approximately an hour ago. We would expect contact within about 20 minutes as they move through the Antigua area of acquisition. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston, 40 hours 7 minutes into the flight. Antigua should acquire in about 8 minutes from now. Still no contact with the crew. Spacecraft onboard fuel situation is 440 pounds remaining of usuable propellant. 220 pounds of that have been either marked or set aside for an OAMS type preretro burn, should any kind of reentry by necessary during our two high apogee passes. That would be burn, of course, at perigee if we are successful in the 912 feet per second burn to a new altitude of 740 nautical miles That would give us a perigee of 156.1 nautical miles. If at any point in those two revs, 26 and 27, that a reentry should become necessary, it would be done from perigee. It would be preceded by what we call a preretro OAMS burn. We use the orbiting atitude maneuvering system as a backup to our retrofire rockets. The position of the big burn geographically is approximately 250 nautical miles west and slightly south of Los Palmas in the Canaries. 250 nautical miles. 40 hours 9 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston 40 hours 14 minutes into the flight. Antigua should be acquiring momentarily. Perhaps a minute from now. In the course of the Antigua pass the crew will be give a go for a 45-1 flight, that is the full duration of the planned flight. The velocity meter load the instrument that will be primarily controlling the big PPS burn over the Atlantic will be checked very carefully onboard and on ground. We may get some additional information on a crew status report. This is questionable whether it will really be gotten in to at this point. It may come a little later. Later in the pass as they move east northeast of Antigua the crew is to of course, set up and be entirely ready for the big burn. Among other things they are to activate a 16 mm camera. We are not certain whether this is looking out "Pete" Conrads" window or Dick Gordons' side. We would guess it is probably Dick Gordons' side because the window is cleaner. First call is about to go out to Antigua and here it goes, let's listen as this conversation develops.

S/C Hello Houston

Go ahead Houston

HOU Roger, you're garbling a little bit. Could you turn your encoder switch off?

S/C Roger, it's off.

HOU Roger, How does the Agena look now? When you faded out over the last station you had a problem with it. Over.

S/C Well, every once in a while we do get a MAP

and we have to send a command a couple of times then we'll finally get a MAP. We're in FC2 right now, Gyrocompassing DEF.

HOU Roger, for your information when you were over the Canaries we saw you send two commands each time for both G O rate and pitch Horizon sensors and we got MAPs for both of the commands both times and the function was executed on your first command. Over

S/C Okay, apparently we're not getting a MAP light back, that's all.

HOU Roger, at least right now it looks like all the commands are getting through even though you don't get the MAP light. Have you taken a look as far as the status display panel lights or approach lights?

S/C No, we didn't try those. How about our GET time hack?.

HOU Roger, I'll give you a time hack at GET 401800. That's about 25 seconds from now. Time will be 401800. 5 4 3 2 1 mark that's 401800.

S/C Roger, we're right with you. Primer burn is still 40 plus 29 plus 59 1 plus 50..is that correct?

HOU That is correct. As you approach the Canary Island we will varify on the ground that you actually are in flight control Mode 7 and monitor all your commands. But you presently have a "go" for the burn unless you hear from us, you'll execute the burn on time. Over.

S/C Okay. Houston 11 (garbled)

Houston 11.

HOU Go ahead 11.

S/C Can we have the encoder back?

HOU That's affirm. Turn the encoder on at this time and we'd like you to send approach lights on and monitor you from the ground.

S/C Okay.

HOU Are you ready to copy your OAMS re-entry inertial update?

S/C Go ahead.

HOU GET of 5 degrees 403239 GET 275 degrees 415104 For area 27 echo GETB 412239 Delta V 240 Burn time 5 plus 00 Address 25 9 24 00 Ball reading up 3 For area 28-1 GETB 43 05 00 Delta V 240 Burn time 5 plus 00 Address 25 924 00 Ball reading up 1 and both of these OAMS re-entries are roll left 55 degrees. Over.

S/C Okay, I didn't get the 5 degrees Ball time, please and the first thing after that.

HOU Roger. The GET of 5 degrees on the ball is 403239 The GET of 275 degrees on the ball is 415104. Did you copy that?

S/C Got it.

HOU Another possible problem that you ...that could

be causing those MAPs, intermittent MAPS, is a your L-band beacon seems to be cooling off fairly rapidly at night. Suggest you send 071..this will turn it on allow it to warm up and perhaps we can get some better MAPs.

S/C Okay.

HOU 11 Houston also you have a "go" for 451.

S/C Roger.

HOU 11 Houston. Your approach lights look good from here. You're cleared to turn them off.

S/C Okay.

HOU Yes sir go (faded out)

S/C Say again.

HOU 11 Houston. Could you give us an abreviated crew status report?

S/C Roger. We haven't eaten this morning.

HOU Roger. Thank you.

S/C We slept for about 5 hours.

HOU Roger.

S/C I can't reach the water gun, it's locked up.

HOU Have a good ride up there.

S/C Thank you.

HOU (back ground voice) temperature (faded out) Go sir.

(Dead Air)

HOU Say again sir.

HOU Stand by and I'll check.

This is Gemini Control Houston 40 hours 24 minutes into the flight and we have had LOS via Antigua. We should acquire at the Canaries in about 2 minutes from now. We'll be back with you then. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston, 40 hours 27 minutes into the flight, and the Canary station has acquired the controllers there declare both vehicles are GO on the ground. The Flight Director is talking to the Canary station - quizzing him on the flight control mode being used. In the last 10 minutes, a number of visitors have come into the Control Center, among them Dr. Elms, James Elms, the new director of the Electronics Research Center in Boston. The director of this Center, Dr. Robert Gilruth, Dr. Berry is here, and Donald Slayton. Canary controllers advised the crew that there are standing by on the ground preparatory to the burn. The Secondary Propulsion System will be used first for some 68 seconds to insure the proper position of fuels in the thrust chambers for the large engine to make it burn properly. The Canary has given the final GO for the burn. 40 hours 30 minutes and we are standing by. We have SPS initiate. We have an ullage burn starting - it started at about 40:30:20, 40 hours 30 minutes 20 seconds. No conversation going on back and forth across the line but the listening is so intense you can almost hear it. The attitudes are looking good Canary reports. 40 hours 31 minutes 20 seconds - we should be just a few seconds away from the PPS. We have a PPS start. Pete Conrad said "It's going, it's really going." Looking good. We have a cut-off.

CYI Cut-off.

S/C Whoop-dee-do, look at it go.

CYI Looked real good from here. Looked real good from here, 11.

S/C Roger, Bill, 31 seconds of MAIN propulsion left.

CYI Would you say again, please?

S/C We have 31 seconds of MAIN propulsion left.

CYI Roger, understand. 41 seconds of MAIN propulsion left.

S/C Negative, it's 31.

CYI Roger, 31.

This is Houston, we have had confirmation from both the crew and from the Canary Islands that the velocity meter did cut the vehicle off. Stand by one. Dick Gordon has just advised that we achieved a 918, 918 feet per second, which would be only 6 feet per second off the planned maneuver.

HOU Rog.

CYI Coming back to loose flight control modes, Flight.

HOU Rog.

CYI And want me to check with them on this central angle now?

HOU Say again.

CYI Do you want me to check with him on this ...

S/C Canaries, 11.

Roger, I did get the Platform to FREE, I got it to FREE at 40:33:30, and would you have them

S/C compute the angles for that time, please?

HOU Will do.

CYI Roger.

Do you copy, Flight.

HOU Wilco.

They are working on it now, 11.

S/C Okay

CYI You will have to give that to them over Carnarvon, Flight.

HOU Yes, we will get is as soon as we can.

CYI 11, this is Canaries here at our LOS. They will get that to you as soon as they can.

S/C Okay.

CYI We have LOS.

This is Gemini Control, Houston. From all appearances, a very successful burn. Additional information could be - will be forth coming at Carnarvon. Meanwhile, the spacecraft is beginning its climb to a new altitude record of perhaps slightly more than 740 nautical miles. This 740 was based on a 912 feet per second burn. The onboard readout was 918. The spacecraft at this time, was almost directly east of Marakesh. It will proceed across the northern portions of the Sahara Desert, start its swing southward on - perhaps 300 miles south of Cairo, move across

the Red Sea, bisect the Arabian Penisula from northwest to southeast, and then proceed across the Indian Ocean. It will come into Australia on the northwest corner, and it will - its orbit will carry it over the entire central portion of Australia before it beings its climb up across the Pacific Ocean. We will confer with the controllers here to get more precision on the times of the burns and come back to you with them. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston, 40 hours, 52 minutes into the flight of Gemini 11. We have conferred with the flight dynamics officer and he advised that our new apogee will be 741.7 nautical miles. We should achieve this apogee some 25 minutes from now. The longitude of the new apogee is 150.6 degrees east and the latitude is approximately 26 degrees south. This would be at a point roughly 150 miles west of Brisbane, Australia. Almost over the eastern coast of Australia, just inland from the east coast of Australia. The new period, the earth fix period, the time that it will take the Gemini to get around the earth during this high apogee period is 107.5 minutes. This in contrast to our period prior to the burn which was 96.5 minutes. Our new period, 107.5 minutes. No additional contact with the crew since we left the Canary station, and we don't expect any till they reach Australia. This is Gemini Control Houston.

END OF TAPE

GEMINI 11 MISSION COMMENTARY 9/14/66, 1:44 AM, TAPE 159, PAGE 1

This is Gemini Control Houston, 41 hours, 01 minutes into the flight. Canarvon has acquired both vehicles on the ground. They've advised the center here in Houston that they are both GO. We can watch the climb here as the data is coming in now in real time. The present altitude is 564.6 nautical miles high. By the time they reach Australia, they will reach the maximum altitude of 741.7 nautical miles. We have just been advised that the ground elapsed time for the apogee will come at 41 hours, 21 minutes, 58 seconds. This will be an unusually long pass, 21 minute pass, which is a product of the altitude. Pete Conrad has just started talking, let's cut in on that live.

S/C It's fantastic, you wouldn't believe it. I've got EB at the left window and Borneo under our nose, and you're (Canarvon) at the right window.

CRO Get some pictures out the right window, not the left.

S/C We're taking them all at the right window except the 75 milimeter camera.

CRO Roger. Okay, I've got your ball readings when you are ready to copy.

S/C Okay, wait one. Okay, ready to copy.

CRO Okay, will you turn your encoder off, and we'll go ahead and get our Agena tape dump.

S/C Okay.

CRO Okay, for area 27 Easy, your ball reading is up 7.

For area 28-1, your ball reading is up 4.

S/C Okay, we copy.

HOU Carnarvon from flight.

CRO Go ahead, flight.

HOU Let him know that he released the ball 8 degrees past his perogee.

CRO Okay. He released the ball 8 degrees past perogee.

S/C Okay, 8 degrees, Roger.

CRO Flight, Carnarvon

HOU Yes..

CRO We're copying the dump, but the volume is pretty poor.

HOU Okay

S/C I tell you, we can't believe it. Just out of my left window, I see all the way up. At the top of the world, all the way around about 150 degrees, including the horizon all the way around.

CRO Okay, we're now going to connect you with the VM work for your retroburn.

S/C Okay. What's our orbit?

HOU 156 by 742.

S/C That's 156 by 742. Have you got a period for us?

HOU 101.5

S/C 101.5, Thank you

CRO You've got a good VM load.

S/C Okay.

CRO I've got your GAT apogee.

S/C Roger

CRO 41+21+58

S/C 41 21 58

CRO Roger

S/C Have you got a retro time for us?

CRO Stand by

HOU The one he has is good

CRO The one you've got is good, Pete.

S/C The one that I've got is good. What one is that?

CRO You should have 27 easy.

S/C I mean the retro burn XXXXX with the PPS

CRO Okay, standby

CRO Flight, Carnarvon. Did you get that with the update with the 40.9 59.

HOU Yeah, I'm not sure he wants it. I think what he wants is the retro Delta V.

CRO He said he wanted the burn time. The Delta V is 9 12, is'nt it.

HOU That's right

CRO Okay.

CRO Hello, Carnarvon

S/C Go ahead

CRO Okay, your time for that burn is 40+29+59.

S/C Negative, that's the first burn. That's the first burn

CRO I'm sorry, Pete. Standby....Flight, Carnarvon

HOU Go ahead

CRO Okay,I've got the VM work for that maneuver, but I don't have the time.

HOU Okay, I'm giving that to you now, Bill.

CRO Okay

HOU Command 501 is 43+52+38

CRO Say again

HOU Command 501 GETB is 43+52+38

CRO Roger. That time is 43+52+38

S/C 43+52+38 retroburn

CRO That's affirmed

CRO Flight, Carnarvon

HOU go

CRO That dump data we're getting is pretty poor.

HOU Okay. We'll get all the burn data over the Canaries.

S/C For your information, our dosimeter reads .3 rads per hour up here.

CRO Rog.

S/C And the number of events is 11.

CRO Roger.

This is Gemini Control Houston. Our present altitude is 681 miles, still climbing to that 741.7 mark, which will come about 10 minutes from now. It's now 41 hours, 10 minutes, 51 seconds. Here is more conversation.

S/C go ahead

CRO The first is a mode, time 40 13 31. Rev 26 80.6 degrees west, 1 hour, 4 minutes Ascension.

41 21 57, apogee 126. S-11, 41 29 58, sequence number is 04 the mode is A.

S/C Copy.

CRO We're about 10 minutes to LOS

S/C 10 minutes, Rog.

HOU You get a countdown, Carnarvon?

CRO Say again, flight.

HOU You going to/countdown LOS

CRO Yeah, I might try that. Spacecraft looks real good.

HOU Why sure.

CRO I'm a little surprised, the TM quality is pretty/good in the front room

CRO Dick, play the dumps, you can go ahead and put the encoder on.

S/C Roger, encoder's on

CRO Why don't you talk to us about the view.

S/C Okay, I have to go back while we're doing it, because we're very busy. We're looking straight down over Australia now. We have a terminator at our right window. We have a southern part whole world at one window. Utterly fantastic. Here comes the terminator behind me, moving like a streak. Gemini 11, over.

CRO Okay

END OF TAPE

S/C We are setting up for S-11 now.

HOU Roger.

S/C Can you get us a second apogee time?

HOU Stand by.

Carnarvon, from Flight.

CRO Go ahead, Flight.

HOU GT the second apogee, 43:03:28.

CRO Roger.

11, Carnarvon.

S/C Go.

CRO Okay, second apogee will be 43:03:28. This is Houston, present altitude 726.1 nautical miles. You heard Pete Conrad refer to his radiation count - .3 rads per hour for a skin dose reading and the depth dose .11 rads total. He reported as 11 events - that can be interpreted as .11 rads. These are almost precisely as predicted in the way of radiation. They are slightly less than John Young and Mike Collins took on their 413 mile apogee ride during Gemini 10. We are less than a little more than 3 minutes away from apogee.

S/C Do you copy Carnarvon.

CRO That's negative, we lost jam on you. Say again.

S/C Hello, Carnarvon.

CRO 11, Carnarvon.

Flight Carnarvon.

HOU Go.

CRO Okay, we have lost jam here for about a minute here...

S/C Hello, Carnarvon.

CRO 11, Carnarvon.
and we have lost C and S-band track.

HOU Give them a call, Bill.

CRO Gemini 11, Carnarvon.
We are getting the jam back in but it is very, very weak.
Gemini 11, Carnarvon.

S/C Go ahead.

CRO Roger, Read.

S/C Say again.

CRO Roger, read me?

S/C You are very weak, I think maybe out antenna is underneath us and blocking you.

CRO Rog.
Did you get that second apogee time?

S/C 43:03:06 is that correct?

CRO It is 43:03:28.

This is Houston, the Flight Control Communicator out there is Bill Garvin, employee of the Flight Control Division here at the Manned Spacecraft Center, and a veteran Flight Controller who has worked, I think all the remote sites in past manned missions. This is Houston, in the course of this pass, the

Flight Surgeons have been observing heart rates on both men of 75 to 80, respiration is about 50. This is considered quite normal for both men - despite the view which Pete Conrad described as "utterly fantastic." And we are less than one minute away from apogee right now and the Flight Dynamics Orbital Digital figures which are coming in real-time from Australia presently read 739.1. Here is the spacecraft again.

S/C You are very weak.

CRO The TM has been dropping in and out for about the last two minutes.

S/C Yes, we got a low-angle thrust, I guess our range pretty far. We are almost to the other end of Australia, and we are coming up on apogee in about 8 seconds.

CRO Rog.

HOU He ought to be right on the coastline, Bill, for apogee.

CRO Mark apogee.

S/C We had better turn on our apogee recorder.

CRO Roger.

We have had LOS, Flight.

HOU Roger.

This is Gemini Control, Houston. We have had Loss of Signal with the Gemini 11 spacecraft after approximately a 20 minute conversation that began hundreds of miles

northwest of Carnarvon, extended over to the east coast directly over the city of Brisbane. The flight controller, Bill Garvin at Carnarvon marked the apogee and the altitude at the time as 739.4 nautical miles. That was at an elapsed time of 41 hours 21 minutes 58 seconds. The velocity of the spacecraft has shown a commensurate lessening as we climbed to apogee. It got down to a low point of 22, 650 feet per second. This in contrast to its lower altitude orbital velocity is something on the order 25, 550 feet per second. As we descend to perigee, the velocity of course will step up. Our next contact will be at - via Canton Island. That is to come 2 minutes from now, and the duration of the pass is slightly more than 15 minutes. The spacecraft pass actually takes up far south of Canton Island some 15,000 miles or more south, but because of the extraordinary altitude we can and will remote through Canton Island, John Young our communicator here will talk to the spacecraft. We will come back up when we have acquisition at Canton. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston. John Young has put out his first call to advise 11 that we are standing by. Here is "Pete" Conrad.

YOUNG Sound great up there "Pete"

S/C Thank you

YOUNG Sound like you are really up there.

S/C Yes..

This is Gemini Control Houston. The line may have been inadvertently dropped to Canton. It sounded like the carrier signal dropped off the line and John Young is querying his back room right now on that.

Sounds that way.

Okay, we'll check that.

Earlier we were given/the time of the retro type burn from the high altitude. It'll be a burn back to the conventional orbit of roughly 160 circular. That burn will take place over the eastern part of the United States at an elapsed time of 43 hours 52 minutes 38 seconds. The Delta V will be 912 feet per second which is the /same order of Delta V that we requested to reach the high atltitude. Carrier signal is back up now and we expect Young will be putting in a call momentarily.

HOU Gemini 11 Houston, over.

S/C Go ahead.

CTN Roger, can you see New Zealand down south there?

S/C Can we see what?

YOUNG New Zealand.

S/C What's that?

YOUNG I just asked if you could see New Zealand down south.

S/C No, I don't think we did. We were passing the terminator.

CTN Roger

S/C We're showing we're still in daylight up here. The sun is just oh a couple of/three degrees from setting up here and should in just a few minutes. And the terminator pass was a long time ago.

CTN Roger.
All you need is a bigger fuel tank, right?
Ha!

This is Houston. The period of darkness that the Gemini 11 is entering will continue across the eastern half of the Pacific Ocean and off the east coast of the United States. It'll enter daylight again at approximately Bermuda, southeast of Bermuda. Present altitude showing 689 nautical miles. Velocity building up slightly, 22956 feet per second. Our new perigee shows 156.5 nautical miles. That will be achieved out over the central Atlantic Ocean. We'll continue this stand by keep the carrier signal up and should be with the signal for another 5 to 6 minutes at least.

This is Houston. The crew is busy throughout this period taking S-11 experiment S-11 photographs. These are photographs of the airglow area that shows up in a specific light region starting at, something on the order of, 60 miles above the earth. Occurring in various layers and invarying intensities up to 150 miles above the earth. Photographs of course at this altitude would represent vital new data to the experimenters in the airglow area. Our primary experimenters for this specific experiment are the U.S. Naval Research Lab. in Washington, D.C. and the Office of Space Science and Applications, NASA Headquarters in Washington. Another veteran experimenter in the field is the University of Minnesota, Dr. Nye. No additional conversation via Canton but we'll continue to stand by. This is Gemini Control Houston.

END OF TAPE

HOU Gemini 11, Houston. 30 seconds to LOS.

S/C Roger, Houston. We are working with the S-11.

HOU Roger.

CTN Canton has LOS.

This is Gemini Control, Houston. We have had a Loss of Signal at Canton Island. The next acquisition will be via the Texas station, and that is to come at 41 hours 57 minutes into the flight. We presently show 41 hours 42 minutes into the flight. The Agena has advised that the combined weight of the two vehicles presently - this is a ground based weight is 13, 289 pounds, subtract that from the pre-burn weight and we find that about 1,436 pounds of fuel SPS and PPS fuel were expanded in the course of that burn which sent us to this new altitude. It will take slightly less weight - less fuel - consequently less weight to lower our apogee about one rev from now. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control in Houston, 41 hours, 54 minutes into the flight, presently showing an altitude of 348.9 nautical miles. The spacecraft is southwest of Mexico approaching the Central American peninsula. The Texas station is to acquire in about three minutes from now. During the course of the Australian pass, you heard Pete Conrad query Bill Garvin about his new period -- the time it takes to circle the earth. He was given that period on an inertial reference which is 101.5. The earth's fixed reference as far as revolutions go -- that is the time that it takes to completely go around and pass the 80° longitude mark at the Cape -- is 107.5 minutes. This is Gemini Control at Houston.

END OF TAPE

15 Jim is not on

This is Gemini Control Houston 41 hours and 58 minutes into the flight. John Young has put in a call to Gemini 11 which has been acknowledged. There has been no conversation. We are remoting they're talking to them through the Texas station located at Corpus Christi. There will be some discussion during this pass. We should have fairly consistent contact through all tolled a good ten to twelve minutes. The crew is still taking airglow S-11 experimental photographs.

Texas go local

Texas local

Among other things during the course of this pass the velocity meter on the Agena will be up dated for the letdown burn from apogee. To occur about one rev from now. Later as the spacecraft moves across Africa;the crew will begin taking a series of S-5 and S-6 ground cloud photographs across northern Africa north of Kano and on across northeast Africa, over the Red Sea and the Arabian penninsula. They're on their 26th revolution about to begin their 27th.

LOS Antigua

This is Houston. We're about 9 minutes away from perigee. Present altitude is 207.6 miles. Our velocity has stepped up to 25977 feet per second. It will continue to increase as we move to perigee. Flight Director has been in conversation with the Agena. Here is conversation.

HOU We have a dock burn update for you. over

S/C Roger. Ready to copy.

Okay, we're ready to copy. Ready to copy Houston

HOU Roger. Purpose is height adjust GETB 43 plus 52 plus 39 Delta V 911.8 Delta TB 01 plus 48 Address 25 99118 PPS burn TDA aft retrograde and the VM word you have is good.

S/C Roger, understand the VM load is good.

HOU That's affirmative. If you'll turn your encoder off we'll look at it one more time.

S/C Okay.

HOU Gemini 11 Houston. The word is good you can turn the encoder on. Over.

S/C Roger.

This is Houston. After we leave the Antigua area and move over to the Canary area the attitude of the spacecraft will be target docking adapter pointing up. Thereby maximizing the view from the windows of the spacecraft for the ground and the cloud photography that will be taken across the northern part of Africa.The velocity meter burn the elements involved in that burn have been varified in the Agena vehicle on the ground and by the crew. All parties are satisfied that we are in the proper configuration to lower this apogee at an elapsed time of 43 hours 52 minutes and 39 seconds. The next apogee will be achieved 43 hours 3 minutes 28 seconds, or slightly less than an hour from now. This is Houston standing by.

END OF TAPE

Gemini 11 Houston. 1 minute and 30 seconds to LOS at Bermuda.

(Canary Cap com AFD)

(AFD Canary)

HOU Canary Cap com AFD

(AFD Canary Cap com)

HOU Canary Cap com AFD

(AFD Canary Cap com)

LOS Antigua

This is Gemini Control in Houston. We've had LOS Antigua.

(Canary Cap com AFD)

Meanwhile we've been advised by the Flight Director that the stand up EVA this morning scheduled at 46 hours elapsed time into the mission should be carried off as carried in our flight plan, with one possible exception. This will be discussed with the crew a little later. That exception being we may-we're considering asking them to go ahead with the window wiping operation. This could not be included in yesterdays umbilical EVA. The main question in peoples' minds here is whether Dick Gordon can actually reach both windows from his position in the standup EVA mode. We'll get the crews opinion and a decision will be reached after that. The Canary Islands is to acquire less than a minute from now. Since there is no additional work scheduled except the getting ready of the cameras for the S-5 and S-6 experiments perhaps we can expect a little more conversation.

We'll come back when the Canary acquires.

END OF TAPE

UN-AIRED TAPE

CRO Carnarvon has ACQ aid contact

Telemetry solid on the Agena and Gemini.

Flight, Carnarvon.

HOU Go ahead.

CRO Okay, we have got both vehicles and they are both GO.

HOU You are kind of low, Bill.

CRO How are you reading me now?

HOU Fine. Both vehicles are GO.

CRO That's affirm.

The TX has been transmitted.

HOU Roger.

Carnarvon from Flight.

CRO Go ahead.

HOU The GET of apogee will be 41 plus 21 plus 58.

CRO Roger.

S/C Carnarvon, 11.

CRO Hello, up there.

S/C How long have you had us?

CRO Just about a minute here.

S/C The readings are go up here.

CRO Have you got a good view?

S/C I mean it's spectacular.

~~Bill~~, it's utterly fantastic. You wouldn't believe it.

END OF TAPE

This is Gemini Control, Houston, 42 hours 15 minutes into the flight. Canaries has acquired. Let's listen.

HOU Roger.

CYI 11, Canary

S/C Go ahead.

CYI Okay, you can turn your encoder back on.

S/C Roger.

CYI I guess you are on your way back up now.

S/C Rog.

CYI Okay, Flight we have the tape dump completed at Canaries.

HOU Say again.

CYI Tape dump is complete.
This is Canary. This is just about our LOS. Your still good, we will see you next time around.

S/C Roger.

CYI We have C-band LOS, this is Canary.

HOU Roger, Canary.

CYI Gemini LOS.

HOU Rog.
Kano go remote.

KNO Kano is remote.
We have contact.

HOU Gemini 11, Houston at Kano. Standing by.

S/C Roger. This is 11 were are just taking pictures.

END OF TAPE

This is Gemini Control, Houston, 42 hours 48 minutes into the flight. These passes are showing how the ground stations and their placement are being maximized for this two revolution period of high apogees. The time is less than one minute from the acquisition via Tananarive to a handover at Carnarvon. Actually, something on the order of 30 or 40 seconds. Carnarvon will be acquiring any minute. According to our slate, they could have acquired approximately one minute ago. Again a 22 minute pass over Carnarvon. The apogee time will be an elapsed time of 43:03:28, and that apogee will occur at 126.2 degrees east which is inland - several hundred miles inland off the west coast of Australia. Again it will be about 25 degrees south latitude. The present altitude is 656.8 miles and we are predicting for this rev based on tracking data, an apogee of 739.3 nautical miles. Here comes Pete Conrad now talking to Carnarvon. Let's tune in.

S/C Do you have us in sight?

CRO Roger, we still haven't locked up on you Pete.

S/C Say that again.

CRO I said we haven't locked up solid on your telemetry yet.

S/C Okay.

Carnarvon, 11.

CRO Go ahead.

Go ahead, 11.

CRO Flight, Carnarvon.

HOU Go ahead.

CRO We still haven't had any luck on locking up on the vehicle.

HOU Okay.

CRO The TM is very intermittent.
Carnarvon has telemetry solid on the Agena.
She is go.

HOU Roger.

CRO And the spacecraft is starting to come in.

HOU Roger.

CRO Telemetry solid on Gemini. Gemini is go.

HOU Roger.

CRO Gemini 11, Carnarvon.

S/C Now, that's clear.

CRO That's clear. Do you want to turn encoder off and we will start the dump?

S/C Okay.
We have rolled around to where we are slightly pitched down but we are rolled into the orbital plane now preparatory to setting up the Agena.

CRO Roger.

S/C We have you in sight down there, loud and clear.

CRO How is the weather?

S/C Just south of Shark's Mouth Bay, they got some clouds but that's about it.

CRO Stand by, I am going to transmit you a TX.

S/C Okay.

CRO Flight, Carnarvon.

HOU Go ahead.

CRO We are copying the dump.

HOU Rog.

CRO And we have got C- and S-band track.

HOU Roger.

CRO 11, Carnarvon.

S/C Go ahead.

CRO I will give you a GET time hack at 42:56:00, in about 40 seconds.

S/C Okay.

CRO Stand by, 3, 2, 1 mark.

S/C Roger, we are right with you.
And second apogee 43:03:06, is that correct?

HOU 28.

CRO That was 28.

S/C What was 28?

CRO The seconds.

S/C 43:03:28.

CRO That's affirm.

S/C Thank you.
Retrofire burn time is 04:35:239.

CRO Roger.

This is Houston. The present altitude is 725.8 miles, the vehicles have slowed to 22, 729 feet per second, and we are about 25 minutes away from apogee.

S/C Carnarvon can we have the encoder back?

CRO Stand by.

Okay you have got it back.

S/C Okay.

CRO Stand by one, Gemini 11.

S/C Standing by.

Encoder is on.

END OF TAPE

CRO Flight, Carnarvon

HOU Go ahead, Carnarvon

CRO We've got over 5 minutes of dump.

HOU Okay

CRO They look real good

HOU Roger. Sounds good too, Bill

CRO It must be quite a view up there

HOU Bill, could you send us a Gemini A summary, please.

CRO Roger.

CRO Go ahead, 11

S/C He's bringing the Agena up in one minute.

CRO Roger

This is Houston. We're less than 50 seconds away from apogee and we presently show 739.0 nautical miles, the apogee expected is 739.3 nautical miles. Velocity is 22,649 fps mark, apogee 739.3.

S/C FC gyro compasses at this time.... FES spacecraft at this time.

CRO Roger, looks good

This is Houston. Nearly 7 minutes remain in this Australian pass and there will be a 3 to 3½ minute out between Australia and Canton Island. The Canton Island pass, this time, is to run something over 16 minutes.

This is Houston. The cabin pressure during this period continues to show 5.05 pounds per square inch. The left suit in the temperature, 49.8 degrees F. Dick Gordons suit is 50.5 degrees F. The overall cabin temperature 78 degrees. The Carnarvon telemetry shows 425 pounds of propellant still remaining on board. 425 pounds.

HOU	Carnarvon from flight
CRO	Go ahead, flight
HOU	I want a PQI readout for corrulation on the ground.
CRO	Roger.
CRO	Hello, Carnarvon
S/C	Go ahead
CRO	Could you give us a PQI raadout?
S/C	Roger, PQI looks like about 35 per cent
CRO	Roger. Copy flight?
HOU	Thank you
S/C	We were as modulely as we could be.

END OF TAPE

One minute to LOS

S/C How much?

HOU One minute.

S/C Okay. Next pass.

HOU Roger.

CRO Carnarvon has LOS on Gemini

HOU Roger

This is Houston. That wraps up the Australian pass. Our elapsed time is now 43 hours 11 minutes 53 seconds. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston 43 hours 33 minutes into the flight. We have just completed a pass over the Canton area. And in it we find some of the most descriptive phrases we have heard from space. "Pete" Conrad and Dick Gordon describing what they saw primarily in the region of apogee. They just passed apogee they were at an altitude of 650 nautical miles during much of the conversation. Gordon is the primary talker. He describes the colors of the ocean in fairly vivid terms. The tape runs slightly more than 4 minutes and here it is.

Canton go remote.

Canton go remote

Canton go remote

Canton is remote

CTN Gemini 11 Houston at Canton standing by.

S/C Roger. This is Gemini 11 here everything seems to be going okay. Standing by for retrograde.

CTN Roger. At 653 miles now coming down.

S/C Say again.

CTN 650 miles now coming down.

S/C Roger. It surely is round up here.

CTN That's something alright. We figure you've got the thousand kilometer time to climb.

S/C It didn't take long did it? You show the radiation at 22 revs per hour and we have had (garbled) over.

CTN Roger. Say again events over.

S/C 11 eleven

CTN Roger. Sounds like it's safer up there than a chest x-ray.

S/C That's affirmative. Nothing like actual data huh?

HOU Gemini 11, this is Houston. Do you have any comments on the view, the colors and everything for guess who?

S/C I'll tell you one thing it really is blue, that water really stands out and everything is blue. Obviously the curvature of the earth shows up a lot. A lot of the passes reaches over the ocean area Africa, India and Australia were clear however.

HOU Houston, Roger.

S/C Looking straight down you still see just as clearly down below there is no loss of color. And detail is good, extremely good even at that altitude.

HOU Roger.

S/C Houston 11

HOU Houston go.

S/C Roger, we've gotten a little behind that first hour of the EVA prep. I think we're going to have to eat, then we'll see if we can catch up.

HOU Houston roger. Gemini 11 Houston one minute 30 secs to LOS at Canton.

S/C Roger. Houston standing by.

Canton approaching LOS

END OF TAPE

This is Gemini Control, Houston, 43 hours 41 minutes, and since we started talking, John Young has established voice contact with Gemini 11. We probably won't get in any solid conversation for about another minute until we are into the Texas zone of acquisiton on a local basis. The pass will be an extended one - let's see we can give you the exact time. The Guaymas circle will hold them for something over 6 minutes. Texas has them for nearly 9 minutes, and they will move on east. It should be something like a 20 to 25 minute at the very least, pass.extending on out to Bermuda. In the course, of which of course, we will have the burn to lower us from our high apogee back to a more conventional of 160 mile orbit. The burn is to take place at 43 hours 52 minutes 39 seconds. The delta velocity is 911.8 feet per second. Time of the burn will be 1 minute 48 seconds, total time, that includes an ullage burn of approximately 70 seconds of ullage and about 25 or 26 seconds of Primary Propulsion System burn. The attitudes are being looked at now on the ground. Texas is being remoted, and John Young is talking.

HOU Your attitude is holding good.

S/C Roger.

HOU If you will turn your encoder off, we will check that BM mode one more time.

S/C Roger, encoder off.

HOU Gemini 11, Houston. You can turn your encoder back on, the BM load is good.

S/C Roger.

Our present altitude, 214.5 nautical miles headed for a perigee of 156.3 nautical miles. Perigee will occur at 56.57 degrees west longitude. Watching the velocity buildup again we are up to 25,975 feet per second and still climbing. This is Houston, we are 6 minutes away from the burn. The velocity meter has been checked, the program has been checked very carefully and everyone is satisfied that we should proceed with the burn.

HOU Texas go local.

TEX Texas local.

The Agena/Gemini configuration is in an attitude with the big engine leading and it will fire into the direction of flight. In other words, a retrograde type burn, the onboard Orbital Attitude Maneuvering System will be turned off. The configuration will depend on the Agena for rate command, attitude control, and it will be in rate command. It is all quiet here on the ground and apparently up above. Here is Pete Conrad confirming that he is in Flight Control Mode 7.

S/C We are in 7, Houston.

HOU Roger, we show that down here.

END OF TAPE

We're about one minute away from the burn. The velocity is 26,352 fps, altitude 160, four miles short of perogee which would have been perogee on this orbit. The velocity meter has been enabled. Crew confirms. Burn was initiated, the sequence has been initiated. 16 pounders initiated.

HOU We show your 16 pounders going.

S/C We have .....

PPS has been initiated, the Turbines beam has reported as steady. We had a good burn, Pete Conrad says.

S/C Good burn

HOU Roger

The burn has been completed and it was a good burn.

Bermuda , go remote

S/C The address 08 00 518

HOU Roger

S/V The address 81 reads 02 13

HOU Roger

S/C The address 82 reads 560 122, over

HOU Roger

S/C (garbled) side by side, John.

HOU Really something, is isn't it.

S/C A recorders off

HOU Roger

S/C You got our latest orbit?

HOU Roger, a second

S/C I got the plume movies on all three burns. They ought to be interesting because the lighting conditions were different on each one.

HOU Houston, Roger

HOU Is your VM still on?

S/C Say again, John

HOU Roger, is your VM still on, over?

S/C Roger, I send pulse 520.... 520, check it.

HOU Roger, disable now

S/C Roger, thank you

HOU Right now you are in a 155 by 156, 11

S/C That's not fast for a couple of big birds, is it?

HOU It's outstanding, I think.

S/C Tell Neil, it doesn't look like we have to make those tuneups in the burn, this morning.

HOU That's a big disappointment for me, Dick

S/C Sorry about that, ol buddy.

HOU Maybe next time.

HOU 11, Houston, 30 seconds LOS at Bermuda.

S/C Roger

HOU How does it feel up there?

S/C Thank you John. It"s a lot better orbit.

Gemini Control, Houston, 43 hours 59 minutes and we have completed the burn activity with the Agena. You heard the preliminary orbit - the apogee 165.2 the perogee 156.2. Our

velocity now shows 25,396 fps. It will remain at that number within 50 to 75 fps of that number, while we stay in this relatively 160 circular orbit. Canaries will acquire in a few minutes. The bulk of the morning now, will be spent preparing for the EVA. The check list is'nt quite as likely as the one for the umbilical EVA, but it's still rather extensive. EVA is scheduled two hours from now, to last some two hours and twenty-five minutes. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston, 44 hours 22 minutes into the flight. We have had conversation via Canary Islands and Kano, and the - John Young, while we have been talking has put in a call to the crew via Tananarive. The question came up - it was raised by Pete Conrad, he queried Houston and ask if the surgeon had any objection to his taking a "fox trot" pill. This shows up in the tape, which we will play for you in a few minutes. The reference to the "fox trot" pill is to an anti-bowel movement pill. Apparently the doctor advises that neither man has had a bowel movement in the course of this space flight. And they are hoping they can complete the flight without any bowel movements. The specific pill is called a lowmotile - we will have to check on the spelling of that. It is one word - lowmotile, and it is a canical substance which reduces the peristalsis effect and thereby limits the possibility of a bowel movement. Before concurring in it the surgeon wondered if there was any discomfort. He was assured by Conrad that there was no such discomfort. Here is the taped conversation Canary and Kano combined.

CYI Okay, appreciate it if you would turn your encoder off so we can dump the Agena.

S/C Turning the encoders off.

CYI Okay, thank you.

I am going to hit you with a TX here.

Okay, 11, Canaries. We are ready for your fuel cell purge, section 2 then 1.

S/C Roger.

CYI Houston, I have a PLA update for you.

HOU Roger.

CYI Gemini 11, are you ready to copy your PLA?

S/C This is 11, stand by.

CYI Roger, we are standing by.

S/C This is 11, go ahead, read.

CYI Okay, area 31-4, 49:28:28, 20 + 20, 26 + 05; area 32-4, 51:04:03, 20 + 21, 26 + 12; area 33-4, 52:39:40, 20 + 18, 26. 34-3, 53:58:55, 20 + 17, 25 + 56 + 08. Area 36-3, 57:10:31, 20 + 17, 26 + 19; area 37-3, 58:49:21, 20 + 21, 26 + 16, bank angles for all areas - roll left 85, roll right 95, weather in all areas good. SEP maneuver required on all areas. Did you copy?

S/C 11, copied.

We are all set to go on docking.

CYI Roger.

Okay, 11, Canaries, you can turn your encoder back on.

S/C Roger. Encoder is on and oxygen purge is completed right now.

CYI 11, this is Canaries. Did you do H_2, section 1?

S/C That's affirmative.

CYI We didn't see it on the ground here, we will play it back after post-test.

Okay, would you place your Cryo switch to O_2, please?

S/C Closing O_2.

CYI Would you place your Cryo switch to H_2, please?

S/C H_2 switch.

CYI Okay, 11, this is Canaries. You can place your Cryo switch off.

S/C Okay.

CYI That's all we have for you this pass.

S/C Roger, we are all GO up here.

CYI Roger, we show you GO on the ground.

We have LOS on Gemini.

We have LOS in the Canaries.

HOU Roger, I copied.

Kano, go remote.

HOU Gemini 11, Houston at Kano standing by.

S/C Roger, Houston.

HOU Go ahead.

S/C Ask the Flight Surgeon -

HOU Surgeon from Flight, we are copying you.

This is Houston will you say that again.

Over.

S/C Roger, ask the Flight Surgeon if I can take another "fox trot"?

HOU This is Houston, Roger. Tell him to go ahead. Go ahead. Over.

S/C Say again.

HOU This is Houston, go ahead and take it. Over.

S/C Okay. We will make the EVA on time.

HOU Roger.

Gemini 11, Houston. On that "fox trot" are you having any problems. Over.

S/C I'm not having any problems. It's just that stop and take time.

HOU Roger.

AFD Carnarvon Cap Com, AFD

CRO AFD, Carnarvon.

AFD Okay, you'll pick up a couple of items from Canary that we postponed to your pass. It includes status report and a first star update for S-13. It is on the way out there to you.

CRO Okay. I have got one question for you, what is our present orbit?

AFD Say again.

CRO What's our present orbit.

AFD Okay, 164.5 aligning at 156.3.

CRO Okay.

AFD That's based on Canary.

CRO Rog.

HOU Tananarive go remote.

TAN Tananarive remote.

HOU Gemini 11, Houston at Tananarive standing by.

S/C Roger.

We are trying to grab a quick bite, we haven't had anything to eat yet.

HOU Roger, go to it.

S/C Say again.

HOU Be our guest.

TAN Tananarive LOS.

END OF TAPE

This is Gemini Control Houston 44 hours 37 minutes into the flight. Carnarvon has both vehicles go. Carnarvon has given them both a go based on telemetry readouts. We have no conversation. He's sending them a message up to the space-craft now from Carnarvon. We imagine the crew is eating. Here is some conversation.

S/C Just finishing up. We'll be starting our EVA prep here shortly.

HOU Okay, we 'd like to get a crew status report from you.

S/C Okay wait one
Pilot ate day 2, meal A, everything but the solids. The command pilot ate day 3, meal B, and everything but the solids..and the water gun The water gun reads 1167.

HOU Roger. I've got an S-13 update for you when you are ready to copy.

S/C Okay, wait one. Go ahead one

HOU Okay the time is 45 00 00 mode A address 25 997 86 address 26 91139 address 27 91713 sunset 46 12 35

S/C This is 11 copy.

HOU Roger

72

HOU Carnarvon from flight

CRO Go ahead flight

HOU Bill, he said he ate everything but the what?

CRO No salad.

HOU No salad, okay. Okay, no salad.

CRO Flight Carnarvon

HOU Go ahead

CRO You copied that solids didn't you? Not salad.

HOU Oh, okay. S O

CRO Right.

This is Houston. That last report on the meal has caused a little consternation here in the Control Center. Some people heard it as "we've eaten everything but the solids" others thought he said "we've eaten everything but the salad". The consensus is that he said solids. And it will enter the log book as solids. We still have 3½ minutes of acquisition time. But it is unlikely that we'll have any additional conversation. We'll keep the line open.

HOU One minute to LOS

S/C Roger

CRO Roger Carnarvon

Carnarvon to flight

HOU Can you send us a Gemini LOS main, Bill?

CRO Roger, it's on its way

Houston here. That wraps up the conversation from Carnarvon. There is complete agreement in this control center that the crew has certainly put in a good days work before breakfast, which has literally been the case. They got up at 11:30 Houston

time. Benn up now for six hours and have completed two major burns, very tricky manuevers demanding their full time, the effort of both pilots. And only now are they eating breakfast. Lapsed time is 44 hours 47 minutes . This is Gemini Control Houston.

END OF TAPE

you can't reach either one of them, over.

S/C Okay, no we don't intend to try.

HOU Okay.

CTN Canton has LOS.

This is Gemini Control Houston again. The weather today looks like this, in the mid Pacific landing zone the skies will be partly cloudy today with a few scattered showers, variable winds of 10 knots will restrict wave heights to 3 feet. In the west Pacific landing zone, mostly couldy conditions with scattered rain showers will prevail, winds will be variable with 10 to 12 knots with three to four foot seas. In the eastern Atlantic landing zone, increased cloudiness and isolated showers will be the rule, persistant northeast trade winds will maintain 3 to 5 foot seas. In the primary landing zone in the western Atlantic, the skies Thursday morning will be partly cloudy with a few scattered showers, southeast winds of 15 knots will raise seas to 3 to 4 feet, in the end of the mission landing area. Interesting meteorological features that will be overflown during the day include tropical storms Franchisca and Helga in the eastern Pacific. This information has been provided to us by the U.S. Weather Bureau. At 45 hours 12 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston, 45 hours,22 minutes into the flight. Across the states, the crew has been quite busy with their pre-EVA checklist. A few minutes ago, Dick Gordon reported they were about to perform a suit integrity check, and we assume that they are into that now. They were also asked to bump up their - increase their - turn their manual heater on to increase their oxygen pressure. The Agena has been given a GO for EVA and Pete Conrad has indicated that they're running a little bit slow this morning on their checklist, but he believes they'll make the starting time just about on the mark. Elapsed time is to be 46 hours, would be 37 minutes from now. Here is some conversation as we move across the States.

Guaymas go remote.

GYM Guaymas is remoted.

HOU Gemini 11, Houston, Guaymas standby

GYM Roger.

S/C We're progressing, we're a little late but I think we'll make it alright.

HOU This is Houston, Roger. Gemini 11 Houston, over.

S/C/ 11, go

HOU Roger, you want to bump up that manual heat when you get a chance, over.

S/C Roger, manual O_2 going up. We're getting ready

for the pressure check.

HOU Roger.

HOU Texas, go remote. Guaymas local.

TEX Texas remote

GYM Guaymas local

HOU Texas go local

TEX Texas local

S/C Houston, 11

HOU Go ahead

S/C We missed (garbled) Could you find a set of 20 commands/for about 45.... 4000 for us

HOU Roger, we'll work on it.

S/C We're going to make it on time

HOU Roger

S/C Houston, 11

HOU Go ahead, over

S/C We have both A pumps on for the checklist and passed the suit integrity test

HOU Roger, we saw it down here,/good to us too. looks

HOU Could you send reset timer 060?

BDA Bermuda remote.

HOU Gemini 11 Houston, over.

S/C Go ahead.

HOU Could you send reset timer reset 060?

S/C 060, Roger.

HOU Give the pointing command for 45 40, over.

S/C 21...Real slow and he'll put it in the computer direct.

HOU Roger. 25 08 473. 26 05 027.

S/C Got it

HOU 27 91 713.

S/C Got it, thank you

HOU Roger, it's still 46 12 35

S/c 46 12 35

S/C Houston, 11

HOU Go ahead, over.

S/C At the bottom of the checklist, it says Primary A Secondary B, which do you want?

HOU Primary A and Secondary B is good, over.

S/C Okay.

CYI Canary Islands, flight.

HOU Go ahead Canaries and copy

CYI no copy, just give them a standby

HOU They're tracking the ACS up there

This is Gemini Control Houston, 45 hours and 34 minutes and we're out on the Eastern edge of the Bermuda circle. Canary will acquire in a couple of minutes and will be a fairly low elevation in pass and will move through the Kano area for all the final checks prior to hatch opening. It appears that hatch opening will come on schedule now at very close to 46 hours, 46 hours even elapsed time into the mission. That event to occur over Tananarive. We will be remoting through

Tananarive and the primary action, of course, during the EVA will be to take ultraviolet pictures to shoot a number of different star fields, primarily what astronomers call hot-stars. They give off radiation to the 4,000 Angstom region. Photographs, then, some say, careful analysis can even identify what kind of matter may be in the stars makeup. In the flight of Gemini 10, John Young and Mike Collins took 22 exposures and got good data on 24 different stars. This particular, they plan to look at star fields and hope-fully will get data on as many as 45 stars. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston, 45 hours 52 minutes into the flight. In addition to the S-13 photographs which are carried in our flight plans, some additional photographs, S-5, S-6, the topography photography, and the weather photography will be performed during the day-side passes during the EVA exercises. During the day-side passes, the crew will - Dick Gordon will work with the Hasselblad camera and take color photographs of unusual ground and cloud formations. Our present orbit is 156 by 164 and a revolutionary period of 96.3 minutes. We have had no additional conversation with the crew since our last tape report.. Tananarive will acquire the spacecraft at some 3 minutes from now and during that pass, we can expect to have depressurization of the spacecraft and hatch opening. With Gordon leaving the craft at 46 hours elapsed time, that is exactly 6 minutes from now. This is Gemini Control, Houston.

END OF TAPE

This is Gemini Control Houston, 45 hours 57 minutes into the flight. The switching has been done through the Goddard Center to remote Tananarive back into Houston here and John Young is putting in his first call to Gemini 11. He has advised them we are standing by, he got a Roger from the crew.

S/C .....depress the cabin in about 7 minutes.

HOU Roger.

Pete Conrad advised that we are going to depress the cabin in about 7 minutes, I thought I heard him say, which would put it a couple of minutes later then the exact elapsed time of 46 hours, about 4 minutes later. The crew has had a very busy day since their wakeup about seven hours ago, with the two big burns on the Agena engine. A very active day they didn't get around to eating breakfast until six hours after they had awakened. They had a good nights sleep, Pete said something over five hours of pretty sound sleep. It appears that we will have at least a two to three minute interlude, we'll come back up when we get closer to hatch opening. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston 46 hours 5 minutes into the flight. And just exactly one minute ago we heard again from the spacecraft, Dick Gordon reported, "We are depressurizing". Depressurization started; we clocked it at 46:04 minutes. This process will take a minute or two and then the door will be opened. Following this and a half hour plan, 2-1/2 hour EVA activity, which will be mostly consumed by taking photographs. The crew has another 5 1/2 hours of work stretching out in front of them today. And the high point of that will be evaluation of the tether, which Dick Gordon secured yesterday. A line between the two vehicles. The Flight Director is now advising Carnarvon that it may be that we will have no additional conversation with the crew. We won't know whether they have opened the hatch. The spacecraft is out on the eastern edge of the Tananarive acquisition zone. And it is entirely possible we won't. We can only assume the hatch is open by this time, elapsed time of 46 hours 6 minutes and 50 seconds. We still not have had LOS at Tananarive, but we expect it any second. Carnarvon should be acquired 6 minutes from now and we will be back with a status report at that time. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston, 46 hours 13 minutes into the flight and we are standing by for some word from Carnarvon from which we have not yet heard regarding acquisition, and the status on the crew. During the night here at the Control Center there was discussion of perhaps we might ask the - now we are getting a report that the cabin pressure is zero and that the - all the suit loops look proper on the first ground, the first call going up there. Conrad says they are depressurized, the hatch is open and the cameras are installed in their proper brackets and they are just waiting to pick up the proper stars during this first night pass. As we started to say earlier there was discussion during the night here of perhaps asking the crew - asking Dick Gordon to lean over and try to clean those windows, but it was decided not to attempt that to rule out any possibility of straining or stretching his hoses linking him into the spacecraft ECS system. The flight of Gemini 11 will continue with some smudgy windows. We only hope that the dirt or the obstruction on the windows won't mar the photographs or the view which Gordon and Conrad describe so vividly several hours earlier over Australia when they were up at an apogee of 740 nautical miles. The crew is - during this first night pass the crew is to take photographs of the star Antares in the constellation Shaula(Scorpius).

It will also take ultraviolet photographs of Achernar and a third constellation Gamma Velorum. The primary star in Gamma Velorum will be Canopus. The principal experimenters for the S-13, Ultraviolet Photographs, are the Northwestern University Space Science group at Evanston and the Office and Science and Space Applications, NASA Headquarters, Washington, D.C. We have six minutes remaining in this pass which has been extremely quite to this point.

This is Gemini Control Houston, still no conversation via Carnarvon, apparently the crew waiting to acquire the stars which was their last instruction to us. We have this brief conversation on tape which came at the start of the pass, some six or seven minutes ago. Here is how it went.

HOU Standing by for you Carnarvon.

CRO Houston Flight, Carnarvon Cap Com.

HOU Go ahead.

CRO Okay, the cabin is zero, the suits are good, ECS is on, and the OAMS control power is off.

HOU Roger.

CRO Gemini 11, Carnarvon Cap Com.
We are standing by.

S/C Roger, we are depressurized, we have the camera installed, fixing the hatch and we are just waiting to pick up the stars. We haven't got them yet.

CRO Roger.

CRO Flight, Carnarvon

HOU Go ahead.

CRO ECS is now off, and OAMS control power is now on.

HOU Okay, they are probably moving a little bit.

CRO Roger.

Houston again, 46 hours 20 minutes and we are still without conversation. We're a minute and a half away from loss of signal. We will continue to standby and monitor and bring you whatever developments that we can. The Canton acquisition this pass is to come about 11 minutes from now and it will be slightly more then an eight minute pass, with John Young hopefully talking to the crew, remoting through Canton Island.

CRO Gemini 11 Carnarvon. We're one.....
Gemini 11 Carnarvon. We're one minute to LOS.

S/C Roger. We're taking pictures at this time.

We're on the first series, Shaula.

CRO Roger.

CRO Carnarvon has LOS on Gemini, LOS on Agena. .

HOU Roger Carnarvon.

HOU How did the O_2 pressure hold up?

CRO Real well. It was reading 8.....

This is Gemini Control Houston. You heard the communication indicating loss of signal via Carnarvon. Canton to acquire 10 minutes from now. The crew has one pack of ultraviolet film which would be something on the order of 40 to 45 exposures and there is some additional pad in there. I would say at least 45 exposures. The surgeon now is advising the Flight Director that the rates during this early part of the extravehicular activity were about 90 on heart for both people and the respirations running 16 to 18, which the surgeon views as entirely satisfactory. At 46 hours 23 minutes into the flight, this is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston, 46 hours 33 minutes into the flight. And as we started talking, the Canton, go remote signal came through. John Young is advised that we are standing by.

S/C (garbled) Do you read me?

HOU Roger, you're very garbled, Pete, say again, over.

S/C Okay, ...complaining about the grease on my window. It's so bad, that I can't even see the star horizon field.....inside the outer pane.

HOU Roger, inside of the outer pane.

S/C It's going along just fine, we wouldn't be doing this well if we didn't have the Agena working for us.

HOU Roger. Do you need the point of command to see the star- to get the star?

S/C Yes we used the first step and took direction of Eridanus and / we're locked up on Achenar right now. Doing great. On the second series we ran pictures. Right now, we're headed for Orion. Might get all three of them.

HOU Roger, great.

S/C Say again

HOU That will be wonderful.

This is Gemini Control Houston. That was Pete Conrad talking about fairly garbled message. The sense of it was the smudges, he called it grease on my window is so bad, he said, I can't even see the stars. It sounds perhaps, like it's getting worse, although he's had quite a lot to say about it yesterday. The window situation is such that the flight director has asked the people in the back room here to come up with some pointing information where for the next series of stars in the next nightside pass, Pete can use his instruments to find these stars, such as the clouding on the window. The Canton pass, the Canton acquisition this time, will flow right into Hawaii so we'll be able to stay right with them, total pass of something like 12 to 14 minutes. The combined weight of these two vehicles after the big burn is presently carried - estimated at 11,900 pounds. The weight prior to the burns, combined weight of Agena and Gemini, was 14,625 pounds. There has been no additional conversation. Let's go back and keep the line open.

HAW Hawaii has C-band track.

HOU Roger, Hawaii.

HAW S-band track, Hawaii

HAW Gemini 11, Hawaii standing by

S/C Okay, Hawaii

S/C Okay, Hawaii, we're on our last step. We got all three steps. We plan to roll